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ORIGINAL ARTICLES.

FUNCTIONAL AND ORGANIC HEART MURMURS IN INFANCY AND IN CHILDHOOD.¹

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I ASK your permission to utilize the time afforded me for a presidential address by discussing a few points connected with cardiac murmurs, both functional and organic, mainly in infancy and in childhood. In the last volume of the Transactions of our Association, I published a paper on functional cardiac murmurs. I avail myself of this opportunity to again return to the same subject with a single contribution which I think of some importance. On that occasion I quoted a remark of mine of the year 1888 (*Brooklyn Medical Journal*, March) which reads: "The heart (of the infant) exhibits functional murmurs but rarely. Whenever there are murmurs present in the infant, it is safe to attribute them to organic disease rather than to mere functional disorder." The last few years have produced many contributions to the same subject, particularly in Germany. Two authors of eminence, Hochsinger and Soltmann, deny absolutely the occurrence in the first three years of life of functional murmurs. The persistent discussion of these statements, both in societies and in the journals, have, however, brought out a few instances of a murmur in the very young that may well be taken as functional. One of them I quoted last year. After all, it appears undeniable that even a single case contradicting the categorical dicta of the two eminent workers is capable of shedding light on a difficult topic.

Helen D. (colored), thirteen months of age, rachitic, was admitted to the "Jacobi Ward" of Roosevelt Hospital March 19th, with pneumonia and some pus cells in the urine. The last physical signs of pneumonia disappeared about April 6th; on the 10th there was some vaginal discharge but no gonococci were found. It disappeared after a few days. All this time there were marked remissions in her high temperature, the thermometer showing 105° F. and more in the evening, and less than 101° F., down to 99° F., in the morning. Plasmodia were not found in spite of renewed examinations which were made before quinine was administered. Large doses of the latter were then given daily up to 10 grains a day, also subcutaneous injections during the remission. Careful search for pus everywhere was negative. On April 10th a systolic murmur was

heard which gradually increased and fortified the diagnosis of septico-pyeluria. Then, while quinine was continued, Credé's ointment, 1 gram daily, was used; within a day the temperature fell to 102° F. in place of 105° F., and the child appeared comfortable for some days, smiled and took food. At no time could pus be discovered. There was no dulness, and respiration had become normal with absence of any physical changes or symptoms. The murmurs grew less and could not be found on April 17th, nor afterward at any time. About the same time the temperature rose again and exhibited the same steep curves of previous weeks. The infant was evidently sinking and could not be examined closely during the last six days of her life. She died on the 23d. The autopsy revealed a recent suppurative pleurisy of the right side, surely a few days old only, and absolutely no other abscess or ulceration. The cause of the pyemic fever is unknown to me. But the subject of greatest interest to me was the heart. Here was an infant with sepsis, with a marked systolic murmur that took a few days to become quite loud; then it gradually diminished and was absolutely lost during the last six days of life. A close examination of the heart by the pathologist of Roosevelt Hospital, one of the gentlemen connected with the Pathological Department of Columbia University, revealed positively nothing abnormal in the heart. So here was a functional mitral murmur in a baby of thirteen months of age.

Neither it nor an organic murmur should, however, be mistaken for extracardial murmurs. I have seen that error committed. Extracardial murmurs in children, mostly systolic, are very infrequent in infants below two years, because at that early time the heart is larger in proportion and less covered by the lungs. When these grow, however, and in the presence of a tumor or of adhesions between the pleura and the pericardium, the murmur appears, soft or grating; is mostly heard anteriorly only; is arrhythmic, not synchronous with the contraction of the heart; is strong on deep inspiration; disappears when there is no breathing, and is less audible in a recumbent than in an erect posture.

Hochsinger terms extracardial those murmurs which are now and then observed in grave anemia, mainly leucocythemia, and not infrequently with rachitic deformities of the heart. It will not do, however, to be overconsistent. In grave anemia we might well think of the myocardial structure-changes which result in irregular contraction; and in rachitis the more extensive contact of the heart with the ill-shaped chest an-

¹President's Address.

noys the heart-muscle sufficiently to impede symmetrical contraction.

If murmurs mean organic valvular disease in most cases, the latter does not necessitate the presence of a murmur. Mitral stenosis need have no murmurs at all. Osler long ago emphasized the fact that ulcerous endocarditis may not exhibit any murmur, and that the diagnosis of the condition is thereby rendered difficult. I have seen proofs of that statement in autopsies. When the deposits take place at the insertion and not at the edge of the valves, there is, or need be, no murmur. Two months ago I lost a child two years of age who was under close observation six weeks for pneumonia, endocarditis, and, finally, meningitis of which he died. This endocarditis was diagnosticated by the usual symptoms and was marked by a loud systolic mitral murmur. The patient was in a fair way to recover from his endocarditis (pneumonia having disappeared before the heart was affected), when meningitis developed. During that recovery the murmur became gradually less from day to day until it disappeared entirely. There was certainly an apparently complete recovery from endocarditis. The specimen which I shall exhibit to you before the end of the session shows still a slight thickening of the edge of the mitral valve and isolated small thickenings at a little distance. But for these findings the murmur might have been classed as functional; as it is, there is merely a proof that a partial, probably also a complete, recovery from endocarditis may take place. That happens, perhaps, more frequently in the very young than in advanced years. For although endocarditis is very frequent at an early age, valvular lesions are mostly—but mostly only—milder than in the adult, and compensation is easier. Moreover, murmurs are not so apt to be loud because the vessels are relatively wide compared with the heart. At about puberty the relation of the width of the blood-vessels to the volume of the heart is 61:290, while in the newly-born it is 20:25, *viz.*, almost identical.

What I said of the possibility of a bona fide recovery from endocarditis is mainly due to the changes I alluded to last year. I spoke of Bouchut's proliferating endocarditis (*endocardite végétante*), called valvular nodes by Albin, blood-cysts by Luschka and Parrot and lately (1898) blood-nodules by Berti. They are small elevations, principally on the lower side of the valves, and give rise to a systolic mitral murmur in the newly-born, which may either last a lifetime or disappear in time with the growth of the organ, or with increasing absorption, or with progressing compensation.

Endocarditis is not always easily diagnosticated. That there may be valvular lesions without a murmur, I think I have shown. However, endocarditis does not necessarily mean valvular lesion, nor does it necessarily imply dilatation and accentuated pulmonary sound; nor is it followed, at least for years, by obstructions and disturbance of compensation, for in the very

young the right ventricle is more muscular, expels its contents more readily into the blood-vessels, which are still disproportionately wide, and thus protects the auricles against dilatation. But what endocarditis does accomplish in many innocent-looking cases is through its complication with myocarditis.

Most murmurs mean organic lesions either in the valves or in the myocardium. In that respect all ages are alike. But there are possibilities in the infant which modify the explanation of the usual observations; and there are conditions in which the diagnosis may be very difficult. For instance, besides the frequent mitral systolic murmurs that result from infectious diseases, most commonly from rheumatic invasion, there are those that originate in contraction, or more or less obliteration of the mitral orifice, or adhesion of the valve. These conditions are not always complicated. There is, for instance, the case of Gerhardt, that of a baby who died at the age of four months. Still, they are very rare, very much more so than in the pulmonary artery, or even in the aorta where some have been noticed and ascribed to syphilis.

In persistence of the ductus arteriosus Botalli there is a loud systolic murmur over the sternal end of the second left intercostal space. It extends upward into the vessels of the neck mainly of the left side and is audible posteriorly in the left interscapular space. It is connected with a characteristic dullness nearly oblong, extending along the left margin of the sternum to the clavicle. Within a few months lately I have seen two cases in which the diagnosis was obvious. But uncertainty may arise when there are complications with valvular anomalies (either rudimentary development or excrescences) or with interauricular communications, or with stenosis or atresia of the aorta or of the pulmonary artery, or with a narrow bicuspid orifice. These complications are more dangerous than the patency of the channel itself, because the number and degree of accompanying conditions, such as extensive murmurs, cyanosis, and hypertrophy of the right ventricle, depend on them. When not so complicated, patency of the duct is compatible with a fairly long life.

In congenital stenosis of the pulmonary artery there is in the sternal part of the second left intercostal space a systolic murmur which is not transmitted into the carotid, except when there is a complication with defects of the ventricular septum. It may be mentioned that the second pulmonary sound is feeble, that there is cyanosis with clubbed fingers and hypertrophy and dilatation of the right ventricle. These are not present when, instead of stenosis, there is a complete atresia of the artery. In that case the right heart is small or rudimentary.

Absence of the ventricle I have never seen, or diagnosticated unless complicated with stenosis of the pulmonary artery. In these latter cases there is a loud murmur over the sternum which extends far down and upward into the vessels of

the neck. The secondary pulmonary sound is accentuated only when there is a hypertrophy of the right ventricle; when both ventricles are hypertrophied the second aortic and pulmonary sounds are of equal strength. The frequent statements in the books that pulmonary stenosis with defect of the septum is characterized by hypertrophy of the heart, I cannot verify. On the contrary, the absence of much hypertrophy I find to be characteristic of that condition; it has led me to a correct diagnosis which I could verify by the autopsy. The record of one such case may be found in the *Archives of Pediatrics* of a number of years ago.

Another class of cyanotic cases owes its origin to an arrest of development of the common arterial trunk which did not separate into the aorta and pulmonary artery. In these cases, contrary to many statements, I found but little hypertrophy or dilatation, sometimes none at all. The loud murmur is heard over the sternum a little to the right and to the left, about the insertion of the second and third ribs; it is very audible posteriorly, but much less than anteriorly.

Very loud murmurs, audible at a distance, without the ear touching the chest, I have heard more in adults than in children, without having an opportunity to make an autopsy. They are always systolic and are mostly attributed to hypertrophy and believed to be muscular only. In a few cases, however, I am certain that no increase of percussion dullness or of cardiac impulse corresponded with the loudness of the tone; so I was inclined to believe that the peculiar phenomenon was due to torn and swinging papillary muscles. Not infrequently the general condition of the patient is vastly better than the formidable noise would appear to suggest.

Organic murmurs, when present, are not always audible. They may not be heard at all when the heart-beats increase in number. Then the blood-wave is small and the excursion of the valve short. Diminution of temperature, or a few doses of digitalis, therefore, restore a murmur which was temporarily absent; but under ordinary circumstances also, as I said before, an organic murmur may disappear for two reasons, one of which is recovery, the other compensation. I think I proved that the disappearance of a murmur, as, for instance, in Case III. and Case IV., described by Starck in *Arch. f. Kind.*, 1900, p. 200, does not prove it to be functional. Nor is there any reason why an endocarditic thickening should not be absorbed as well as those on other tissues.

A few words only on myocardial changes. About middle-age myocardial changes are mainly caused by everything that gives rise to hypertrophy and dilatation. We find mostly a diffuse increase of the intermuscular connective tissue with atrophy of the muscular tissue which first was hypertrophic. The senile heart is very apt to exhibit hypertrophy and dilatation of a peculiar type. There is atheromatous degeneration of the coronary and the minute nutrient arteries. There

is consequently an annoyance or destruction of the lymph interstices and channels in and on the myocardium, and of the two large trunks that carry the myocardial lymph to the mediastinal lobes, and, finally, degeneration of the myocardium resulting in either macroscopic, more or less local, thickening or in atrophy. That is why the contraction of the organ is liable to be irregular, and partial, in instalments, as it were, although there be no accompanying sclerotic alteration of the pericardium, or thickening of the valves and of the endocardium.

What we call debility of the heart is a symptom of a great many different conditions. There is a congenital atrophy which is liable to lead to lipomatosis, there are intoxications by infectious diseases, alcohol, syphilis, malaria, and tuberculosis; nutritive disorders, such as rachitis and scrofula, overexertion and premature schooling with constipation, and subacute and chronic nephritis, one of the most frequent and most frequently overlooked diseases of early infancy. I mention only those causes of myocardial acute, subacute or chronic changes that are most common in the young, but should emphasize that what is called debility or failure at any age is in all the cases so occasioned not functional, but the result of organic lesions. Two most interesting cases of heart debility I found connected with purpura. Only in one could I obtain an autopsy. There were numerous blood-points in the walls of both ventricles and a livid appearance of the muscle.

In infants and children myocarditis is mostly parenchymatous.

Most intense and persistent myocardial changes are found after influenza and after diphtheria; they are most injurious at about puberty—fortunately, however, diphtheria, is not so frequent at that age—when the heart is no longer disproportionately strong and large, than in earlier years. Schmalz reports 81 cases of chronic cardiac disorder originating in 500 cases of diphtheria. In some seasons—for instance, in the severe New York epidemics of 1870 and 1874—the proportion was much larger. In many arrhythmia and murmurs last for life; they may be modified by a protracted recumbent position during convalescence, and by resorting to absolute rest extending over weeks whenever increased cardiac disturbance is observed. The systolic murmur is *extensive*, but mostly heard in the mitral and pulmonary regions, at the same time that now and then there is an increase of transverse dullness. But more characteristic than the extensive murmur, which often by the absence of localization facilitates the differential diagnosis, is the irregularity of the contraction of the heart. The condition of the heart-muscle changed by myocarditis (parenchymatous or hyperplastic, it makes no difference) is not uniform. Neither a kidney nor the myocardium is equally affected and changed in all its parts. That is why arrhythmia is so frequent. No matter how many causes, either in the heart or nerves

or, distant organs, are charged with causing it, the most frequent cause is chronic myocarditis.

A peculiar form of arrhythmia mostly complicated with a murmur is the duplication of one of the heart-sounds. It is not always easy to distinguish which of the sounds it is that is so affected. Now and then we hear a dactylus—uu, in other cases or at other times an anapestus uu—. The cause of this gallop-rhythm must be either in the myocardium or in the valves. From careful and long observation of individual cases, and from the improvement that rest alone is able to work on the case in regard to the annoying symptoms, there is no doubt in my mind that it is the former. The first sound appears to slit up when the two atrio-ventricular valves are not working simultaneously, the second, when the aortic and the pulmonary valves do not act together. This lack of synchronicity, however, depends on the lack of muscular myocardial coaptation. A similar symptom may be had in mitral stenosis, particularly after a slight exertion, and in hypertrophy and dilatation of the right ventricle when the valves close in different times.

The gallop-rhythm is a suspicious symptom inasmuch as it proves the exhaustibility of the heart-muscle. I kept the children in bed for months, and a single exertion sufficed to renew or to increase the duplication. Thus, a long rest is required and attention to general hygiene, food in small and digestible quantities, and regulation of the bowels. In most cases iodide of potassium is indicated and strychnine or some other cardiac stimulant. Strychnine should not be feared, because it should not be forgotten that parts of the heart are probably in an intact or nearly intact condition, and permit of stimulation. If that be done carefully, the galloping rhythm ceases to be such a bad omen as some declare it to be.

Clara R. was discharged June 8, 1899, after having been in the hospital for chorea. This returned about the end of January, 1900, she then had pneumonia, from which she recovered. She was readmitted March 3, 1900, with chorea mostly of the right upper extremity, very irregular heart-action, dulness reaching more than one centimeter beyond the right margin of the sternum, while in an erect position, and marked duplication of the second sound at the apex and to the right of it. The impulse was feeble. Radial pulse small. Muscular power generally feeble, with costiveness and at one time incontinence of urine resulting therefrom. The latter was almost suddenly relieved by increasing the doses of $\frac{1}{100}$ of a grain of strychnine to $\frac{1}{50}$ of a grain, three times a day. When her general strength improved and her color brightened, the duplication disappeared gradually; but whenever her condition appeared worse, under the influence of a low barometer, for instance, it would reappear. She was kept in bed and was discharged April 16th without her duplication, and with her heart not reaching beyond the median line of the sternum when in a sitting posture.

This Association fills a place peculiarly its own. Its aims and objects appear sympathetic to every physician who is more than merely an anatomist or pathologist, and better than a mere prescription-writer. The class of philosophic doctors whom Hippocrates calls "godlike" because he says they strive to learn the connection of things, belongs here. The climatic and atmospheric influences of Nature on man, mainly as they affect the human creature through the respiratory and circulatory organs, is the object of your study. That is why there is, and should be, a peculiar incentive to become a member and why the applications for admission were always very numerous, and the roll of membership has become large. We have been very fortunate in not losing by death any of our members, except Dr. J. C. Mulhall of St. Louis, whose loss we have to deplore.

The danger of swelling the ranks too rapidly is very great indeed. This year, however, we are singularly fortunate in the character and standing of our candidates. In connection with this matter, it is hardly necessary to point to and to emphasize the established policy of the Association to admit only men whose position is established or who through at least a few publications connected with our study have proved their right to apply.

Feeling as I do that contributions should be spontaneous unless there be a preparation for a set discussion, I felt a few months ago that there might not be a sufficiency of material for your meetings. I was happily mistaken, for there is ample work for you. The American democratic spirit has prevailed again.

PERFORATING DUODENAL ULCERS.

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(Continued from p. 696.)

THE following list embraces all the reported cases of perforation of the duodenum that have undergone operation up to April, 1900, and have been carefully investigated and epitomized by Dr. E. M. Foote, to whom I am much indebted for this and other help in the preparation of this article.

Case 1.—M., aged thirty-five years; a heavy drinker; no history of indigestion. For a week or so loss of appetite and indefinite epigastric pain; then sudden acute pain while at work, followed by vomiting. Two days later brought to hospital in collapse. Abdomen distended, dulness in right flank; pulse rapid and feeble; temperature 98.8° F. Laparotomy at end of two days. Acute peritonitis—cause not discovered. Death in a few hours. *Autopsy:* Perforation anterior wall of duodenum close to pylorus.¹

Case 2.—M., aged thirty-one years. Acute attack like intestinal obstruction. Diagnosis, ap-

pendicitis and general peritonitis. Operation third day. Appendix normal; general peritonitis; perforation not found. Death in a few hours.²

Case 3.—M., aged twenty-nine years; history of abdominal colic. While in usual good health he was seized at 5 P. M. with sudden pain, followed by bilious vomiting. Some lumps of feces and gas passed that evening, but there was absolute constipation thereafter. Next day a purgative only increased the vomiting and pain. Entered hospital on third day, with fecaloid vomiting. On fourth day great distention, tenderness and pain at its maximum in right hypochondrium; pulse 120, small; dulness in both flanks. Diagnosis, perforative peritonitis. Operation in about ninety hours. General peritonitis. The hand thrust under the liver broke into a cavity containing two quarts of serous liquid. The intestine was searched in vain for mechanical obstruction, and on account of weakness of patient, the operation was terminated. Death same evening. *Autopsy:* Perforation "near the end of the second portion of the duodenum, externally."³

Case 4.—M., aged twenty-eight years, always well. While drinking tea, had a violent pain in the left side of the abdomen. Next day, a tumor to the right umbilicus; sour vomit, later becoming fecal; tympanites; constipation; no blood. Third day, temperature normal, pulse about 130. Operation in eighty hours (about). Incision to left of umbilicus gave vent to gas and pus; intestine sound; greatly distended; incision of intestine; suture of collapse; drainage. Death in seven hours. *Autopsy:* Perforation in anterior wall of duodenum purulent peritonitis.⁴

Case 5.—M., aged forty-one years, of good previous health except slight indigestion. One year before perforation, had an attack of abdominal pain with constipation. While at work was seized with violent pain; gastric vomiting, later becoming fecal; no blood; absolute constipation. In tympanitic stage, when first seen by reporter; respiration thoracic; pulse 120; temperature 99.2° F. Diagnosis, septic peritonitis. Operation, May, 1891. Usual incision; cavity searched; no cause for suppurative peritonitis found; irrigated; drained. Death in ten hours. *Autopsy:* Perforation in posterior wall of duodenum, 1 inch below pylorus, freely communicating into peritoneal cavity when intestines were lifted.⁵

Case 6.—F., aged twenty years; servant; of constipated habit; otherwise health good. Bowels moved by salts two days before the attack. A sudden attack of pain in the right hypochondrium, passing then to left side, and afterward becoming general. Vomiting of sour fluid began twelve hours after the attack of pain and continued. There was tympanites without loss of hepatic dulness. Diagnosis of general peritonitis, cause unknown. Operation in twenty-four hours. A median incision below the umbilicus allowed the escape of inoffensive fluid. A second incision above the umbilicus disclosed the perforation $\frac{1}{4}$ of an inch in diameter, in the posterior aspect of the duodenum, close to the

pylorus. Milk was escaping through it. The ulcer was excised and sutured, the abdomen flushed. Death in six hours. General peritonitis.⁶

Case 7.—M., aged twenty-one years; always good health. Sudden pain in the lower abdomen, followed by vomiting and collapse. After eighteen hours laparotomy gave exit to much brownish, acid, non-feculent fluid. There was adhesive peritonitis. The cause of peritonitis was not found. Death in a few hours. *Autopsy:* A perforation in the anterior wall of the duodenum, about 5 inches from the pylorus, and about 5 inches in diameter; a second non-perforating ulcer of the posterior duodenal wall.⁷

Case 8.—M., aged fifty-six years; brought to the hospital in a condition of tympanites, and having a right inguinal hernia. Laparotomy. The hernia was explored and found to be in good condition, and the incision was prolonged upward seven inches giving vent to purulent and fecal fluid. No cause for the peritonitis was found about the cecum or elsewhere. Death in a few hours. *Autopsy:* On the anterior surface of the duodenum, 0.5 inch from the pylorus, was a perforated ulcer, 0.5 by 0.7 inch. It could easily have been sutured.⁸

Case 9.—M., aged twenty-eight years; of good health until two months before perforation, did not feel quite himself, but no localized symptoms. While ascending an omnibus, felt a sudden pain in the abdomen; nausea and vomiting after an emetic had been given; constipation for four days, then a little fecal matter and flatus, after an enema. Entered hospital on seventh day; abdomen distended; general tenderness; respiration 28; thoracic; pulse 104; temperature 99.8° F. Questioned with reference to duodenal ulcer; could not localize first pain; never any blood by mouth or in stools; only slight history of indigestion. No evidence of trouble in upper part of abdomen. Diagnosis, septic peritonitis with pus in pelvis. Operation in one hundred and fifty hours (about). Subumbilical incision; two pints of pus from pelvis; appendix, cecum and small intestine sound; higher search abandoned as there was less peritonitis in that direction; irrigation, drainage, suture. Death in fifty-four hours. *Autopsy:* Septic peritonitis in pelvis, and also about duodenum, the areas being separated by a middle zone, relatively free from peritonitis; perforation, 0.5 inch in diameter, 0.7 inch from the pylorus, in the upper wall of the duodenum.⁹

Case 10.—M., aged sixty-one years, with a long history of gastric ulcer, with epigastric pain and vomiting, never of blood. Sudden pain in right hypochondrium; collapse. Diagnosis, perforation of gastric ulcer. Operation in four hours, fifteen minutes. Perforation in duodenum, anterior wall, 0.7 inch from pylorus, sutured; thorough washing, drainage. Death in six days. *Autopsy:* Suture tight; a second ulcer in the back of the duodenum, non-perforating; purulent fluid behind liver and in pelvis.¹⁰

Case 11.—M., aged twenty-eight years; good

health. One hour after a movement of the bowels, while lifting barrel from a dray, felt a sudden pain across the abdomen like a knife; vomiting immediately began and continued; third day fecal vomiting; pain especially on right side; pulse rapid, temperature 100.6° F., respiration rapid; cold sweat. Diagnosis, intestinal obstruction. Operation in sixty-two hours. Subumbilical incision gave vent to a large amount of sero-pus with a fecal odor; cecum, appendix, hernial openings, and intestine in pelvis examined; incision prolonged upward; perforation as "big as a florin" in anterior wall of duodenum; 1 inch from pylorus, pared and closed with six or eight Lembert stitches. Area covered by omentum; irrigation; drainage in pelvis. Death in eight hours. No autopsy.¹¹

Case 12.—F., aged twenty-seven years; for a fortnight had epigastric pain, and constipation for seven or eight days; treated for indigestion. Sudden pain in epigastrium and collapse; vomiting frequently repeated. Thirty hours later; slight tympanites; abdomen uniformly tender; pain most marked in epigastrium; vomiting; respiration rapid and irregular; pulse 120; temperature 100.6° F. Diagnosis, general peritonitis from mechanical obstruction. Operation in thirty hours (about). Subumbilical incision gave vent to fluid and fibrin; intestinal coils congested; no lesion found; incision prolonged upward; gas noticed near gall-bladder; perforation of duodenum 0.7 inch from pylorus; surrounding induration incised; suture; irrigation; sponging; no drainage. Nothing by mouth for seventeen days. Recovery. Two months later symptoms of obstruction; operation on third day; adhesions which obstructed the ileum a short distance above the cecum freed. Death from perforation of the wall of the ileum just above the obstruction. The suture of the duodenum was smooth and thin.¹²

Case 13.—M., aged thirty-five years, of alcoholic habit. Upon going to work was attacked by sudden abdominal pain and vomiting; pain and nausea continued, although vomiting ceased. Thirty hours later the patient lay with hollow eyes, alternately extending and drawing up his legs as paroxysms of pain came on. Nothing had passed by anus. There was tympanites except for dullness in the right iliac region, where pressure was painful. No tumor could be made out; temperature 37.9° C. (100° F.), pulse 104 and small. Operation by Brissaud, fifty-one hours after the attack, December 14, 1893. An incision was made over the appendix, giving vent to a great quantity of fecal matter. The appendix was not seen; drainage. Death in a few hours. *Autopsy:* General peritonitis, and a fusiform collection of pus from the liver to the right iliac region. There was perforation of an ulcer in the anterior wall of the duodenum, just below the pylorus.¹³

Case 14.—M.; after a debauch the patient was attacked by a sharp pain in the right side of the abdomen. Forty-eight hours later there was general tympanites, dullness over a tumor in the

right iliac region and collapse. Operation in fifty-three hours as for appendicitis. From the incision pus and milky fluid escaped in large quantities. Irrigation and drainage. Death. *Autopsy:* Perforated duodenal ulcer, the sac about the cecum containing much of the milk and food which had been taken during the illness.¹⁴

Case 15.—M., aged twenty years; slight indigestion. While at the theater a sudden attack of severe pain in the epigastrium with tenderness; no vomiting; passage of flatus; slight tympanites; temperature 96° F., pulse 100. On the second day greenish vomiting; becoming fecaloid; obstipation; rapidly increasing tympanites; tenderness in the cecal region. Diagnosis of appendicitis. Operation in about sixty hours. Gas without odor, thin, purulent fluid, and lymph in peritoneal cavity. Perforation not found; intestines washed; abdomen closed. Death in twenty-four hours. Perforation anterior aspect of first portion of duodenum.¹⁵

Case 16.—M., aged twenty-three years; an attack of sudden pain, vomiting, and obstipation three years previous. An acute attack of pain and vomiting lasting five days. There were two movements of the bowels in this period. When seen on the sixth day, there was marked tympanites and a very rapid pulse, but not much tenderness or pain in the cecal region. Diagnosis of appendicitis. An incision made about one hundred and five hours after attack allowed odorless gas and thin pus to escape. The intestinal coils were covered with lymph and greatly distended. An incision into the jejunum permitted several pints of fluid to escape. Perforation not found. Abdomen washed and drained. Death in twenty-two hours. *Autopsy:* There was a small perforation of the anterior wall of the duodenum, one half inch below the pylorus. At the same distance, there was in the posterior wall the scar of a healed ulcer.¹⁶

Case 17.—M., aged twenty-eight years, hard drinker. Sudden abdominal pain accompanied by vomiting. Two days later admitted to hospital with general abdominal distention and tenderness, but no loss of liver dullness; temperature 103° F., respiration 20, pulse 120. On the third day a liberal median incision revealed a general peritonitis, with a small amount of fluid; cause not found. Rapid irrigation and drainage. Death three days after operation. *Autopsy:* Sharply defined ulcer in the third part of the duodenum, in its posterior wall. The ulcer had for its base the pancreas, whose tissues were necrotic and infiltrated with pus. The suppuration had extended as far as the jejunum, and had there entered the general peritoneal cavity.¹⁷

Case 18.—M., aged thirty-five years, a hard drinker, with a history of a similar attack thirteen years previous. For a few days there was a severe abdominal pain accompanied by vomiting. Was admitted to the hospital with very great general tenderness, no distention, and a temperature of 102° F. The symptoms improved until the fourth day after admission, and then signs of a

rapidly spreading peritonitis were manifest. Diagnosis of appendicitis. Incision made on the fourth day over the appendix showed that organ to be normal. There was a general peritonitis and a large quantity of odorless fluid in the abdomen. Drainage. Death in a few hours. *Autopsy:* Perforation in the superior wall of the first portion of the duodenum just beyond the pylorus. The gut was adherent to the liver by recent fibrin. There was also the scar of an old healed ulcer.¹⁸

Case 19.—M., aged fifty-six years; long history of gastritis and diarrhea and sometimes of blood. Acute attack of pain, four hours after dinner; constant vomiting; collapse. The usual lavage failed to give relief and the water did not return readily. Morphine administered; passage of gas per anum. The next day the symptoms disappeared, then returned with vigor. Stool after enema. The second day there was again a remission and again a relapse toward night. Dulness and pain most marked in the right iliac fossa; pulse 112, temperature 38.2° C. (100.7° F.). The third day still iliac tumefaction; marked sepsis; pulse 160. Operation sixty-six hours after attack. Incision over appendix, which was thought to be the origin of the disease, allowed the escape of three pints of reddish purulent fluid with fibrin masses. The peritonitis appeared limited, and it was decided best not to break up the adhesions to find the perforation. Douche and drainage. Death nine hours after operation. *Autopsy:* An ulcer just below the pylorus occupied two-thirds of the circumference of the duodenum, the anterior wall being not involved. The perforation was on the postero-external surface.¹⁹

Case 20.—M., aged thirty-three years; no previous gastric trouble. Sudden colicky pain in right hypochondrium; collapse; no defecation nor passage of wind. Following day, tympanites; liver dulness absent; temperature 100° F., pulse 122, respiration 38. Operation in twenty-five hours. Incision median line; purulo-fibrinous peritonitis; gas and fluid from duodenal region; perforation sutured by two rows of stitches; intestines cleaned by moist gauze; no drainage. Recovery after bronchitis; primary union of wound. Patient seen four years later in good health.²⁰

Case 21.—M., aged thirty-five years, a hard drinker. Sudden severe abdominal pain, without vomiting. Admitted to the hospital eight hours later with a tense abdominal wall, and tenderness over the gall-bladder. The pulse was 90, but there was no fever. Later the temperature rose, distention with obliteration of the liver dulness developed. Diagnosis, appendicitis. Operation in twenty hours. Incision over appendix, which was normal. A well-marked general peritonitis was present, but the patient's condition prevented further search. Death in twenty-four hours. *Autopsy:* Perforation of the duodenum in the posterior wall 1¼ inches from the pylorus, and a second non-perforating ulcer lower down.²¹

Case 22.—M., aged fifty-two years; attack of acute pain in epigastrium with obstipation and tympanites six years previous. Recovery in six weeks. More or less pain since. Acute attack of severe pain about pylorus, later extending downward and backward. Absolute obstipation; tympanites slight on second day and increasing; vomiting on third day of moderate character; temperature 100° to 100.5° F. Diagnosis of appendicitis. Operation on fourth day. Intestines distended and covered with lymph; no pus. Perforation of duodenum into general peritoneal cavity found and closed. Cavity douched with hot water; gauze drain. Thirst and brownish vomiting; rapidly rising temperature. Death on third day after operation. No autopsy.²²

Case 23.—M.; sudden epigastric pain while at work, followed by vomiting, tympanites, and loss of liver dulness. Operation in about thirty hours. Perforation in anterior wall of first portion found and sutured. Gas and yellowish fluid in peritoneal cavity. Flushing with hot water; drainage for twenty-four hours. During convalescence return of symptoms necessitated a second laparotomy. Only adhesions of liver to diaphragm. A needle thrust through the eighth intercostal space into these drew a drop of pus. A mural abscess formed later which probably caused the above recurrence of symptoms. Recovery.²³

Case 24.—M., aged fifty years, who for ten or fifteen years had pain after meals, with vomiting and bloody stools. Last hemorrhage seven months before entrance to hospital. Emaciated and anemic on entrance; stools black; diagnosis of ulcer ventriculi. Two days later sudden pain in right hypochondrium, with retracted abdomen; temperature 100° F., pulse-rate normal. The signs of peritonitis with feelings of distention increasing, laparotomy was performed twelve hours after the attack. A long incision made above the umbilicus with cross-cut to the left and right; stomach and duodenum examined and fluid like coffee-grounds squeezed from its posterior region by pressure, but no perforation could be made out. Duodenum, stomach and colon were sutured together to protect the general peritoneal cavity. Cavity irrigated and wiped and drained at epigastrium and through pelvis. Recovery. Six months later in good condition, as far as duodenal ulcer went. Still had chronic gastritis. Death in eight months from operation for suppurative peritonitis. *Autopsy:* A new perforation in the posterior wall at the beginning of the second portion of the duodenum.²⁴

Case 25.—M., aged twenty-four years, with no gastric trouble. After a large dinner he felt indisposed for a few minutes. The next morning he rose at six o'clock in usual good health and ate his customary breakfast. At the last mouthful of a glass of white wine, he felt a sudden most severe pain and lay down in bed. There was vomiting of food, and afterward incessant vomiting of bile. He described the pain as "not like a general colic, but always in one point, here,"

indicating a spot on the left, midway between the umbilicus and ensiform. A physician diagnosed volvulus, and tried by enemata and massage to relieve the pain. In five hours vomiting ceased and the pain subsided somewhat and was referred to the lower abdomen. No fecal matter nor gas passed the anus. There was no tympanites nor difficulty in passing water. Sixteen hours after the attack he was admitted to the hospital. The abdomen was retracted and board-like, the pain was less and vomiting had ceased. There was costal respiration and the expression of the face indicated severe abdominal trouble, the nose pinched, the eyes sunken, the hands clammy and the patient in a half stupor. Diagnosis was thought to lie between appendicitis and duodenal perforation. Nineteen hours after the attack an incision was made in the median line from the pubis to above the umbilicus. The abdomen contained non-feculent fluid, and there were light adhesions on the intestinal coils. Appendix normal; no intestinal lesion; pelvis normal. Incision prolonged upward and stomach searched; gas found escaping from under liver, and perforation near pylorus on anterior surface of duodenum sutured. Abdomen wiped and drained from site of duodenum. Several saline injections amounting to 4200 c.c. in all. Death in twenty hours from peritonitis; suture tight.²⁶

Case 26.—M., aged twenty-six years; health perfect, never any gastric symptoms. Two hours after his usual light breakfast, while making a slight effort to open a sack, the patient experienced an intense pain in the left side of his abdomen. He was taken almost at once to a hospital. Diagnosis of appendicitis; treatment by ice and opium. Following day a feeble pulse, without fever; abdomen distending; tenderness in left iliac fossa. On second day vomiting set in becoming bloody and bilious. About fifty-six hours after the attack, Sebileau made an incision as for appendicitis, permitting the escape of non-feculent fluid, like bouillon. The appendix was normal. The patient was already collapsed, and nothing further was done, except to drain with gauze and give a saline injection. Death after incessant vomiting in thirty hours. *Autopsy:* Abdomen contained fluid. There was general peritonitis; perforation in the anterior wall of the duodenum 1 cm. from the pylorus.²⁵

Case 27.—M.; an attack of sudden pain like lead colic. Incision from the ensiform downward. There was food under the liver, and a perforation was found in the first part of the duodenum. Suture. Death in twelve hours.²⁷

Case 28.—M., policeman, of alcoholic habit and history of gastric attack. While on duty the patient had a sudden attack of pain which made him writhe in agony. His bowels had moved a short time before. When seen soon after the abdomen was retracted, as hard as a board; excessively tender, especially under the ribs and in the right flank. Diagnosis of hepatic colic. Compresses were applied and morphine administered. The following day he felt better. An in-

jection resulted in a large stool. Milk and vichy were administered. There was no fever and not much pain, but the abdomen was still retracted. Thirty hours after the attack vomiting set in, soon becoming bilious. The abdomen swelled and the patient was taken to a hospital. Diagnosis, appendicitis, intestinal obstruction or volvulus. Abdomen opened forty-eight hours after the attack. Nothing but general peritonitis discovered. Dieulafoy, operator. Death in one hour. *Autopsy:* Perforation of the duodenum in the anterior wall just below the pylorus.²⁸

Case 29.—F., aged twenty-five years, servant, giving history of gastric trouble with vomiting, but never of blood. An increase of gastric pain, with general tenderness and abdominal swelling. Was followed four days later by marked distention. Palpation showed the greatest tenderness to be in the cecal region. There was no fever. A needle thrust into the right iliac fossa brought out gas and an odorless fluid, containing flakes of fibrin. An incision was made over the appendix which was congested. There was general peritonitis. Death four days after the operation. *Autopsy:* Pus in the pelvis and about duodenum, in the lower wall of which close to the pylorus there was a perforated ulcer. A second ulcer was situated in the posterior wall.²⁹

Case 30.—F., aged thirty-four years, servant, with a history of gastric troubles for twenty years, with frequent vomiting of blood; last attack one week before admission to the hospital, the vomiting being followed by bloody stools; pulse 84, regular, strong; rectal temperature 98.6° F. Maximum pain midway between ensiform and umbilicus to the right of the median line. Ice-bag on abdomen, nothing but ice by mouth. Next day pain involved the whole right side; was relieved by morphine, but recurred with vomiting, a small pulse of 106, and cold sweat. More morphine was given. Two hours later the pulse was 130, there was tenderness all over the abdomen, and edema in the epigastrium. Diagnosis, gastric ulcer. *Laparotomy two days after admission to the hospital* (thought by the operator to be "at least fifteen hours after perforation") through the left rectus above the umbilicus; gas and fluid escaped; no adhesions; general peritonitis. Perforation at pylorus, thought to be in the lesser curvature, sutured. Abundant irrigation; gauze drainage; 700 c.c. saline injected. Death twenty-four hours after operation. *Autopsy:* Perforation in the superior wall of the duodenum near the pylorus. The suture was perfect.³⁰

Case 31.—F., aged fifty-four years, with history of indigestion, no bloody vomiting. A sudden attack of pain and vomiting, not of blood, followed by a large bloody stool and several small ones of a tarry character. Was followed eighteen days later by a second attack. There was tenderness and resistance to the right of the median line above the umbilicus; no fever. Laxatives and enemata relieved the abdomen of gas and fecal matter and the area of resistance became

a well-defined tumor. Nine days after the last attack an incision was made through the right rectus muscle, and in separating the abdominal wall from the viscera, several small abscesses were opened, and through one of these gas and gastric contents escaped. Perforation readily found and closed. It was at the pylorus and thought to be in the stomach. The gall-bladder was opened and eight stones removed. Most of the omentum was excised. Iodoform-gauze drains were inserted. Death in five weeks. *Autopsy:* Abdominal condition was perfect. Death was due to pulmonary thrombosis infarction from saphenous thrombosis. The sutured ulcer had healed. Two others in the duodenum had not perforated.³¹

Case 32.—M., aged thirty-seven years, shoemaker, with nausea and vomiting and indigestion more or less for years. One morning he awoke feeling perfectly well. On sitting up in bed he was seized by a terrible pain in the umbilicus and to the right side lasting several hours and followed by vomiting. Enemata resulted in several small stools. The next day he was taken twenty-five miles in a sleigh to the hospital, where he arrived with respiration 26, pulse 150, temperature 102.5° F., but free from pain while at rest; tenderness in left iliac fossa, in right hypochondrium, and over right rectus muscle. Stomach and bowels washed out. Diagnosis of duodenal ulcer or appendicitis. Sixty hours after the attack an incision was made in the median line, mostly below the umbilicus. Fluid and gas and fibrin escaping mostly from above, the cut was extended upward and the right rectus was cut across. A perforation which admitted the index finger was found in the anterior superior wall of the duodenum near the pylorus. It was sutured and the cavity washed out with water at a temperature of about 45° C.; wiped out and drained in both loins as well as about duodenum and liver. Compresses wrung out of hot saline were placed in the wound which was left open. The pulse and temperature gradually rose, and in spite of 1150 c.c. of salt solution injected into a vein, the patient died twenty-six hours after operation. *Autopsy:* Fibrous peritonitis without fluid. The suture was firm. There was an abscess between the stomach and colon.³²

Case 33.—M., aged forty-six years, while lifting a heavy weight, felt something snap and immediately afterward there was intense pain (locality not given), which soon spread to the whole abdomen. Four days later he entered the hospital, not having passed gas or fecal matter per anum. There was no localized pain, but pressure was everywhere painful; no tumor nor fluctuation. The patient had not vomited but had a hiccup; pulse irregular, 110; temperature 99° F. A diagnosis of intestinal obstruction was made and castor oil was given in small doses every hour. The next day there was great prostration, and choreic movements. Five days after the attack the abdomen was opened by a median incision from pubis to ensiform, with a cross-cut through

the right rectus muscle. There was a general peritonitis with pus and membranes all over, but especially in the pelvis. At the pylorus on the superior surface was a large perforation which was sewed with difficulty, and the abdomen flushed and closed. Death two hours after the operation.³³

Case 34.—F., aged thirty years, with a history of indigestion and some epigastric pains. While eating breakfast she was seized with terrible pain in the epigastrium and left the restaurant for a seat in the park close by. She was taken at once to a hospital. In six hours the pain was general and vomiting set in. The following morning she was worse, without stools or passage of gas, and scanty urine. The condition grew rapidly worse, with rapid pulse, subnormal temperature, tympanites and loss of liver dulness. A diagnosis of perforation, probably of the stomach, was followed by operation twenty-eight hours after the attack. Incision above the umbilicus gave escape to gas and a quart of bile and purulent fluid. Stomach and biliary tract normal, and perforation found in the right side of the second portion of the duodenum. Opening sutured and abdomen closed over a rubber drain to duodenum. Death in fourteen hours. *Autopsy:* Perforation a little below and to the right of the opening of the common duct explained why the bile flowed so freely into the abdomen. The closure was perfect. There was a second ulcer a little below the first which had not perforated.³⁴

Case 35.—M., aged twenty-three years, a soldier with a history of numerous sprees before he entered the army. During a march he took a cup of coffee, and almost immediately he was overcome by pain in the epigastrium and right hypochondrium, extending into the right shoulder. He was nauseated but did not vomit. There was tenderness and muscular contraction on pressure, especially on the right side. An enema produced a normal defecation. The pain spread over the whole upper part of the abdomen, accompanied by a certain amount of distention, constant vomiting of greenish fluid and a partial disappearance of the liver dulness. Incision above the umbilicus forty-eight hours after the attack. General peritonitis. Intestine overhauled, then liver examined. Bubbling at its base led to the discovery of the duodenal perforation in the postero-superior wall of the first portion of the duodenum. The right rectus was divided to give room for suturing, but the stitches would not hold, and the perforation, of a size to admit the little finger, was walled off from the peritoneal cavity by omentum sutured above and below it. Death in thirty-six hours from general peritonitis. There were no other lesions found at autopsy.³⁵

Case 36.—M., aged twenty-two years. Always perfectly healthy. An acute attack of intense pain and vomiting three hours after supper; pain referred to the umbilicus and right side. On the following morning temperature 101° F.,

pulse 120, respiration 42; moderate tympanites, lower edge of liver dulness two inches above the costal margin, tenderness most marked in the epigastrium, and on the right side of the abdomen. Diagnosis of peritonitis, probably due to appendicitis. Operation fifteen hours after the onset of attack. Incision over appendix. General sero-purulent peritonitis. Appendix appeared normal but was excised. A second incision above umbilicus revealed after careful search a $\frac{1}{4}$ inch opening in the anterior wall of the first portion of the duodenum, close to the hepatic ligament. It was in the center of an indurated area, and on account of its deep situation, no excision was made. Suture and cleansing of the peritoneum with gauze. Closure of abdomen over iodoform-gauze drain. Recovery with severe illness.³⁶

Case 37.—M., aged thirty-eight years, with history of attacks of intense pain in the epigastrium three or four hours after meals, without nausea or vomiting. While in usual good health, suffered an attack of violent pain in epigastrium with collapse. He recovered somewhat and then grew gradually worse, with vomiting on the third day; no movement of the bowels for a week before the attack. On the third day, temperature 100° F., pulse 99, respiration 30; face drawn; abdomen distended with gas; dull in flanks; liver dulness absent. Operation about seventy-two hours after onset of acute symptoms. Through an incision in the median line, much gas and thin greenish-yellow purulent fluid escaped with flakes of lymph; appendix normal. A search over the intestine showed the perforation to be in the anterior wall of the duodenum near the pylorus. It was sutured and the abdomen swabbed out. The operation lasted two and a half hours. One quart of saline solution was injected into the basilic vein. Death in eight hours. The peritoneal cavity was dry, except six ounces of pus between the diaphragm and liver. The suture was tight and adhesions had already formed around it.³⁷

Case 38.—M., aged thirty years, with a history of dyspepsia. While stooping to draw off his boots, the patient suffered a severe pain in his stomach which stretched him out. The following day an enema was given without result. The abdomen was swollen and painful, the pain being all about the umbilicus, the urine scanty and the pulse 120. About twenty-seven hours after the accident an incision was made in the median line at the umbilicus. The intestinal coils were distended and red. A mass of fecal matter seemed to clog the lumen, and was pushed along for a couple of yards. There was a suspicious yellow fluid in the peritoneal cavity, and pus in the pelvis. The appendix was normal. The abdomen was flushed with boric acid solution and closed. The vomiting ceased, gas and a great quantity of feces passed and the abdomen became soft. Five days later the patient was attacked with dyspnea and double pneumonia developed. Death nine days after the operation. There were numerous pus foci in the abdomen,

and a perforation of the duodenum partly shut in by adhesions.³⁸

Case 39.—F., aged seventeen years, and fairly healthy; had rarely suffered from indigestion. One week before perforation occurred, there had been indefinite pain in the abdomen, for which she consulted a physician, who feared a beginning attack of appendicitis. About three hours after eating a hearty supper, while walking rapidly she was seized with a violent pain above the umbilicus. Prostration followed, with rapid pulse, subnormal temperature, vomiting and rigid abdominal muscles. Infusion of saline solution and stimulants failing to improve the patient's condition, operation was performed twelve hours after the beginning of the attack. Incision as for appendicitis; appendix and pelvic organs normal, as was the small intestine. In the upper part of the abdomen there was a good deal of lymph and greenish fluid. The perforation of the duodenum was in the anterior wall of its third portion and was about the size of a goose-quill, and surrounded for about an inch by an indurated area. Fluid was freely escaping. Direct sutures would not hold, so a purse-string was inserted and afterward other peritoneal sutures. In this way the opening was firmly closed. Lymph and fluid were wiped away, and the abdomen flushed with a great quantity of hot saline solution. Numerous gauze drains were inserted. Convalescence was slow, as it was a long time before the suppurating tracts, where the drains had lain for a week, had healed, but the patient ultimately recovered completely.³⁹

Case 40.—M., aged thirty years; sudden pain in the abdomen followed by shock and taxis symptoms. Operation thirty-six hours later as for appendicitis. Perforation found in first portion of duodenum. No blood nor food in peritoneal cavity. Death in a few hours.⁴⁰

Case 41.—M., aged forty years; seized with pain while at work, followed by shock and toxic symptoms and great tympanites. Operation in twenty hours. Perforation found in first portion of duodenum, no blood nor food having escaped. Death in a few hours.⁴¹

Case 42.—M., aged thirty-eight years. Supposed pulmonary abscess was opened and a large quantity of pus escaped. Two weeks later an abscess formed in groin and was opened. Later the abdomen was opened for appendicitis and a quart of creamy pus containing streptococci escaped. Death followed. *Autopsy:* Two ulcers near pyloric ring, one in the duodenum, the base of which had healed over, and one in the stomach—perforated. There were numerous pus-pockets in the abdomen, one in the head of the pancreas being the original one apparently.⁴²

Case 43.—M., aged twenty-nine years; alcoholic. Three years' morning vomiting. Following a long spree he felt umbilical pain and vomited and had a chill. The next day the abdomen was moderately distended and rigid. Diagnosis of general peritonitis from appendicitis. Operation one to two days after attack. About one

quart of fluid and fibrin escaped. Appendix amputated. Death in thirty hours. Autopsy revealed perforation in superior anterior surface of duodenum near pylorus.⁴³

Case 44.—M., aged thirty years; history of gastric disturbance; no hematemesis. Sudden severe epigastric pain, with chill, fever, and repeated vomiting and great prostration. No blood by mouth or rectum. Gradually increasing distention and tenderness. Four days later, April 30, 1900, he entered the New York Hospital, the abdomen generally swelled, but not presenting any special points of tenderness or dullness; liver dullness absent. Patient had a double hernia, and in the right hernial sac intestine was to be felt; temperature 104° F.; pulse 140. Median incision with umbilicus in center. Nothing abnormal found at the internal rings or about the cecum. From a ¼ inch perforation in the antero-superior wall of the duodenum close to the pylorus brandy and water was found escaping. Closed with a double row of sutures; thorough washing of intestines and cavity; saline transfusion of seventy-five ounces, etc. Death in a few hours. Operator, Weir. Case not previously reported.

Case 45.—M., aged twenty-seven years; always healthy but a steady drinker. Had colicky pain for four days, above the umbilicus on the right side. Bowels moved daily and he kept on working. Then sudden severe pain three inches above navel and a little to right of median line; chill; no nausea. Nine hours later, pulse 80, respiration, 20, temperature 101.5° F. March 28, 1899, abdomen opened ten hours after sudden pain, along right semilunar line above and below umbilicus; bile stained fluid escaped; appendix examined as a matter of precaution and found normal. Incision extended upward to ribs. Perforation of duodenum, anterior surface descending portion, large enough to admit No. 26 F. sound, through which bile and intestinal contents were escaping. All organs in vicinity showed signs of irritation and so were washed with saline while opening was closed by pad. Suture of perforation; repeated flushing of peritoneal cavity without evisceration and wiping with dry gauze; gauze drain to ulcer; wound elsewhere closed. No shock. Patient fed by rectum for forty-eight hours. Temperature following day 101° F. and infection of skin stitches which were removed. Recovery otherwise uneventful and perfect.⁴⁴

Case 46.—F., aged twenty-five years. Sudden attack of umbilical pain, rigor and slight vomiting. On following day pain at pylorus and blood passed per rectum. Temperature then and later 101° F. or less. Attack gradually subsided, but in two weeks a similar but slighter attack occurred. Later, a fluctuating tumor in region of gall-bladder, gradually increasing in size until it occupied the whole right upper quadrant of abdomen. It was crossed by resonant colon—elsewhere dull on percussion. Diagnosis, hydronephrosis. Through lumbar incision a quart of more of clear amber odorless fluid was drawn off.

Cyst reached from liver to iliac crest and backward to spine. Kidney not felt. Stuffed with gauze, which next day was soaked with sour fluid. On third day food noticed in dressing. Patient developed acute bronchitis and died on fifth day. *Autopsy:* Duodenal perforation 3.5 inches from pylorus forming this retroperitoneal cyst below right kidney and reaching behind duodenum as far as pancreas.⁴⁵

Case 47.—No history given. Incision from ensiform to pubis. Ulcer found at back of the duodenum and with difficulty stitched. Patient collapsed and abdominal wound hastily closed. Death from hemorrhage from a vessel in the abdominal wound.⁴⁶

Case 48.—Patient neurasthenic and little attention was paid to his statement that he had great pain. Operation on the fifth day when liver dullness was entirely obscured. Gas had escaped from the perforation, but no fecal matter, and the ulcer was therefore sutured and the abdominal wound closed without drainage. Death on the third from infection leading from the site of perforation to the pelvis. Suture firm. The operator thought that pelvic drainage might have saved this patient.⁴⁷

Case 49.—M., aged fifty-two years. Epigastric pain of three days' duration was followed by violent exacerbation. No vomiting. Six hours later the abdomen was tense, rigid, almost motionless, with complete absence of liver dullness in the line of the nipples. A diagnosis of perforated duodenal ulcer was made and operation decided upon. Ten hours after the attack an incision was made through the right rectus and a clean-cut perforation found at the junction of the first and second portions of the duodenum. There was intestinal injection but no well-marked peritonitis. The perforation was closed with two rows of sutures, the intestines were brought out and washed with sterile water. A gauze slip was passed to the site of ulceration and the cavity of the abdomen was otherwise closed. Recovery uneventful. The gauze plug was removed on the second day, and the bowels moved on the third day.⁴⁸

Case 50.—M., aged twenty years. Seven months previous an attack of epigastric pain and vomiting lasting two weeks. Sudden severe pain in the right side of the abdomen, accompanied by vomiting. A few hours later the tenderness was greatest over the appendix. Temperature 102° F., respiration 48, pulse 118. Diagnosis, appendicitis. Twenty hours after the attack, an incision over the appendix allowed the escape of a quantity of odorless gas and fluid. On account of feeble condition further operative attempt abandoned. Death in twenty-four hours. *Autopsy:* Perforation in the duodenum, anterior wall, just beyond the pylorus.⁴⁹

Case 51.—M., aged forty-five years, a moderate drinker. Four years previous had a similar attack. While in perfect health was seized with severe pain in the right side of the abdomen, referred to the iliac region. A few hours later the

abdominal wall was tense, without distention, or loss of liver dulness; tenderness over the appendix; temperature 100° F., respiration 32, pulse 104. Diagnosis, appendicitis. Twenty-two hours after the attack an incision over the appendix evacuated considerable turbid serum. The appendix was normal. The peritonitis was most marked on the right side and was followed up the colon to the hepatic region, but no cause for it could be found. The whole abdomen was flushed and drains were placed in the duodenal region and in the pelvis. Death in seven days. Autopsy showed a general exudative peritonitis, without free fluid. In the duodenum, anterior wall, just below the pylorus, was a perforated ulcer, and the scar of a healed one.⁵⁰

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- ⁴⁶ Elliott, *Bost. Med. Surg. Jour.*, 1900, Vol. 142, p. 41.
- ⁴⁷ Elliott, *Bost. Med. Surg. Jour.*, 1900, Vol. 142, p. 42.
- ⁴⁸ Perkins and Wallace, *Lancet*, 1900, I., p. 458.
- ⁴⁹ Bolton, *Medical Record*, 1900, Vol. 57, p. 404.
- ⁵⁰ Bolton, *Medical Record*, 1900, Vol. 57, p. 404.

Association of American Physicians.—The following officers for the ensuing year were elected at Washington, D. C., May 3, 1900: President, Dr. William H. Welch, of Baltimore; vice-president, Dr. Henry P. Walcott, of Cambridge, Mass.; secretary, Dr. Henry Hun, of Albany, N. Y.; treasurer, Dr. J. T. Crozier-Griffith, of Philadelphia, Pa.; recorder, Dr. I. Minis Hays, of Philadelphia, Pa.; member of the council, Dr. William W. Johnston, of Washington, D. C.

CLINICAL MEMORANDUM.

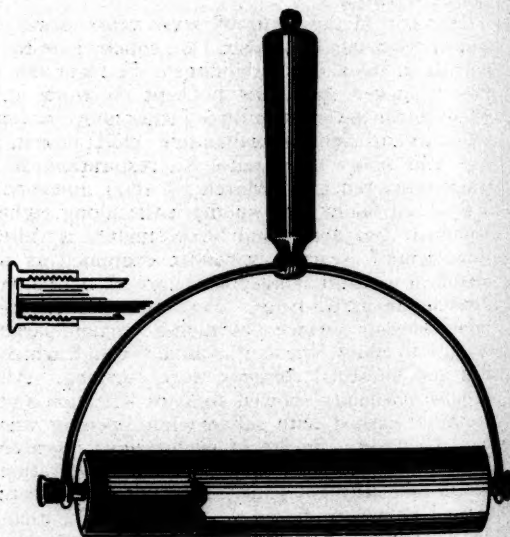
A METAL ROLLER WATER TANK FOR THE APPLICATION OF HEAT OR COLD (COUNTERIRRITATION).

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OF NEW YORK;

CLINICAL ASSISTANT TO THE CHAIR OF SURGERY IN THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

THE various methods for the application of heat for purposes of counterirritation, such as by the Paquelin cautery, the hot-water bag, or ironing with the flatiron or small gas iron, are familiar to us all. The cautery can only be employed by a physician and is objected to by nervous patients. The hot-water bag is heavy and the heat necessarily is continuous, not intermittent and the degree hard to regulate; while with the ironing, the weight of the iron and the difficulty of passing it rapidly and smoothly over the surface without blistering are the objectionable features; nor can it always be conveniently secured. We present to you in Fig. 1, which was

FIG. 1.



Roller Water Tank.

drawn for me by Mr. Thomas Nast, Jr., a device which possesses the merits of simplicity, lightness, cleanliness and cheapness, and which has demonstrated its value by practical use.

It consists of a closed metal cylinder, three and one-half inches long and one and one-third inches in diameter. The walls are extremely thin, so as to secure good conduction. In order to obtain maximum space for the water, the axles for rotation are placed at the ends of the cylinder and soldered there, thus avoiding a single axle which would necessarily be passed through a central tube and give less space for fluid. One of these axles is a hollow tube and through this the cylin-

der is filled with water. The screw-thread is outside this tube and the cap-screws over and around it, as shown in the smaller diagram. The washer is a solid disc at the bottom of the cap and can be readily replaced by cutting and fitting a small piece of leather. Some difficulty was experienced in expelling the air from the cylinder when filling it, even with a funnel. To obviate this the tube is beveled on the inside in several places, making small gutters for the escape of air about the funnel, even when water is poured directly in. This is feasible, since the hollow filling-tube has the screw-threads and cap on the outside. We find that making the filling-tube slightly funnel-shaped on the outer end is not as practical. An air-vent at the end of the instrument next to the filling-tube, with a screw-cap to close it after the escape of air, is more complicated and costly. The use of a glass roller is somewhat objectionable on account of the expense, liability of breaking, through heat or rough handling; the cork is liable to slip out, under the rapid rotation, and the glass is often rough and heavy—the latter to secure durability—and, moreover, the axles are liable to break.

The illustration readily explains the action of the roller. It is made of brass nickel plated or of gun-metal, and each is supplied with a small metal funnel for filling. The method of application is as follows: It has been my custom to fill the roller with boiling water to about half its capacity, and have more boiling water, or preferably a little alcohol boiling apparatus in action at hand, and change the fluid when it cools. By practical experience the instrument remains sufficiently hot for about five minutes, and then the water is renewed instantaneously, as just described. About two applications or, if required, more can be easily given. A thin handkerchief is first placed over the part, and this can be shortly removed, as the metal cools. The degree of heat can also be regulated by the rapidity of movement and the amount of pressure. If necessary, it can be merely skimmed over the surface.

If cold is to be employed, ice water is readily obtained, or cold water. A little pulverized ice and salt can be added. The patient can easily be instructed in its use.

The applications of this instrument readily suggest themselves, as for instance, in sciatica, muscular rheumatism, neuritis, rheumatic joints, etc. Ointments made with lanolin can be rubbed in, protecting the instrument, the heat being of value to promote absorption.

If moist heat is desired, the handkerchief or flannel can be wrung out in hot or cold water and placed over the part and the cylinder rolled over it. The roller can be made small or large, but the standard dimensions noted are convenient. For skin work a smaller size can be ordered to suit. The instrument is cheap and can be secured, with the funnel for filling it, at the cost of \$1.00 at the instrument-store of James T. Dougherty, 409 and 411 West Fifty-Ninth Street. We are aware that there are electric and massage

rollers, but so far have no knowledge of the simple device above described.

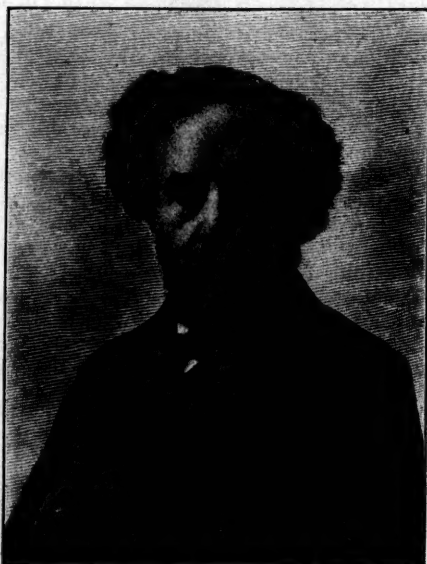
Ichthoform.—S. Rabow and B. Galli-Valerio (*Therap. Monatshft.*, April, 1900) have made an extensive experimental study of ichthoform, a combination of ichthyol and formalin, which leads them to the following conclusions: (1) Ichthoform when added to cultures has no power of directly killing bacteria, although it restrains their development. (2) It possesses a decided deodorizing power when mixed with fecal matter. (3) Neither frogs nor guinea-pigs react unfavorably to even large doses. (4) It can replace iodoform externally and internally is an efficient intestinal antiseptic.

Resoldol.—The value of the condensation product of saloform and resorcin which has recently been recommended as an intestinal tonic and astringent is stated by Herrmann (*Therap. Monatshft.*, April, 1900) as follows: (1) Being insoluble in water and acids and freely soluble in alkalies, it is probably split up in the small intestines into salicylic acid and resorcin. Saliva and diluted bile readily dissolve it, while in the gastric juice it merely remains suspended. (2) Experiments with the hanging-drop gave materially diminished motility of typhoid and colon bacilli. (3) It is relatively harmless and even large doses may be given with impunity. (4) The taste is but slightly astringent and not disagreeable, and the difficulty sometimes experienced in swallowing the drug can readily be obviated by administering it in wafers. (5) No eructations or other gastric symptoms are complained of and its rectal use is equally convenient and safe. (6) A reduction of temperature could not be demonstrated, nor could salicylic acid or resorcin be detected in the urine. Clinically the author has found resoldol valueless in irritative or purely neurotic diarrhea, but has had more success in those cases depending on infections. Enterocolitis, chronic colitis and intestinal tuberculosis yielded in a remarkable way, while with typhoid the results have not been sufficiently gratifying to pronounce the drug a specific. In cases with marked indicanuria due to coprostasis a decided reduction of the indican was obtained without emptying the bowels. Lastly, resoldol was found to prevent the fetid odor of alcoholic stool. The recommended dose is 45 to 75 grains daily.

Leucocytosis in Surgical Cases.—J. C. Hubbard (*Bost. Med.-Surg. Jour.*, April 19, 1900), after reviewing all the surgical cases in the Massachusetts General Hospital during the last five years, in which white blood-cell counts were made, comes to the following conclusions: The count in health, in non-purulent inflammatory conditions, in purulent conditions, and in non-inflammatory lesions, varies between wide limits. The limits of variation are so nearly alike in these various conditions that the count gives assistance neither in diagnosis nor in prognosis.

SPECIAL ARTICLE.

THE JACOBI CELEBRATION.



A. JACOBI, M.D., LL.D.,

May 6, 1903.

THE seventieth anniversary of the birth of Dr. A. Jacobi was celebrated at a banquet held Saturday evening, May 5th, at Delmonico's, New York City, and was attended by more than four hundred friends and professional associates of the guest of honor. The gathering included many of the leading medical men of the country, some of whom came from as far as the Pacific Coast to take part in the commemoration. Among those who attended the banquet to mark their appreciation not only of Dr. Jacobi's high attainments as a physician, but of those personal qualities which have gained for him so many friends on both sides of the Atlantic, were men whose names are prominent in commerce, finance and the professions.

Dr. Joseph D. Bryant acted as toastmaster, and seated with him at the guest table, in addition to Dr. Jacobi, were Seth Low, President of Columbia University; Dr. John S. Billings, Dr. William Osler, of Johns Hopkins University; Carl Schurz, Dr. W. H. Thomson, President of the Academy of Medicine; Dr. Charles S. Fairchild, John S. Kennedy, Dr. W. M. Polk, D. S. Lamont, J. W. Keller, Commissioner of Charities; Joseph LaRocque, Dr. T. M. Rotch, of Boston; Dr. W. H. Welch, of Baltimore; Professor Chandler, of Columbia; Dr. James W. McLane and Horace White. A large number of women listened to the speeches from the gallery, among them being Mrs. Mary Putnam Jacobi, wife of the guest of honor.

The after-dinner part of the ceremonies was opened by Dr. Joseph D. Bryant, late President of the Academy of Medicine, who presided. He spoke briefly of Dr. Jacobi's career and of his contributions to science:

The reasons for our presence here this evening require of your presiding officer no special words of explanation. Every participant in the spirit of the occasion within this spacious hall, and many without, whose presence we are denied, fully comprehend the significance of the event.

How fortunate indeed it is, in the affairs of this life, that worthy and well-directed efforts, addressed to securing personal and public betterment, frequently beget, though oftentimes somewhat tardily, the sentiments of abiding confidence and esteem for those who prudently proclaim their importance, and diligently labor for their attainment. The opportunities for achievements of this nature are everywhere present and so conspicuously clothed as to invite prompt recognition.

The declaration of the fact that he whom we now honor has throughout his career proven a vigilant and effective exponent of scientific advance and of public excellence suggests no denial and venerates the occasion. I believe, however, that it should be recognized at the outset that the observances of the evening are not devoted more to the learned gentleman, whom we so much delight to honor, than to the recognition of those ennobling virtues of which he is the embodiment, and which, when practised with faithful exactness, make of us better men, better citizens, and therefore establish a better world.

The notable examples of the beneficent labors of our esteemed friend in the exercise of his professional skill and fraternal devotion are singularly akin to each other in their inception and in their spirit. In the one example he dedicated, through various channels of bounty, the full measure of his professional sagacity and fervor to the alleviation and cure of the suffering incident to the freedom of individual birth. In the other we are taught by the history of his fatherland that he bestowed a like measure of patriotic zeal to liberty's cause, fostering the birth of individual freedom. To the former service the ripe abundance of his years has been given, to the latter the richness of his youth was well-nigh sacrificed; with both, his name is indelibly recorded as the wise physician and the uncompromising patriot. Numberless hapless poor of the common sphere of life mingle their joy with that of those of higher station, in acknowledgment of the bountiful aid and comfort experienced at his hands.

Medical thought and medical progress, here and abroad, bear abundant evidence of the potent influence on their status of the products of his studious, logical mind. Thousands of physicians, while students in medicine and at bedside consultation, have gained inspiration and comfort from his teachings and advice in a degree equaled only by that of the fortunate recipients of his pro-

fessional ministrations. All along the avenues of commendable professional endeavor directed to the attainment of proper public recognition, of increased knowledge and *esprit*, are noted exalted products to the achievement of which he contributed an untiring energy, guided at all times by sincere executive thought. The justice of this statement is witnessed by the significant presence of the New York Academy of Medicine and its library, and further emphasized by the fact that, in the late effort to increase the latter, he supplemented a previous bountiful contribution by the major part of the recent gain.

The patriotic zeal of his earlier life was an earnest of his devotion to public duty during the latter, and in neither instance has the cry of distress gone unheeded, while in both the weak have been strengthened, the wavering encouraged, and the justice of a cause assured by his word and presence. What he was to those of noble aspirations of the land of his birth, he has been and is to those of the land of his adoption.

Such as this, my friends, is something of the record of him whom we honor this evening, more of which, however, will be told by those whose coöperative experience and comradeship permit of more complete and profound utterance than my opportunity or knowledge affords.

I am prompted, however, to say to Dr. Abraham Jacobi himself: Though thy years be three score and ten and each replete with a glorious harvest, so well hast thou performed thy useful missions that we do hope and pray that life's Scriptural allotment of time may be long extended for you, that not only the example for good shall remain, but good itself be correspondingly multiplied.

Numerous letters and telegrams from well-known scientists and physicians from all parts of the world were read, and an original poem by Dr. S. Weir Mitchell of Philadelphia, laudatory to Dr. Jacobi's life and his achievements, in the absence of Dr. Mitchell, was read by Robert Underwood Johnson.

No honors hath the State for you whose life
From youth to age has known one single end.
Take from our lips two well won titles now,
Magister et Amicus—Master, Friend.

From the gray summit of attainment you
Look on the rugged path you knew to climb.
Take, with our thanks, for high example set
The palm of honor in this festal time.

Constant and brave, in no ignoble cause
The hopes of freedom armed thy sturdy youth;
As true and brave in these maturer years
Thy ardent struggle in the cause of truth.

Nor prison bars, nor yet the lonely cell,
Could break thy vigor of unconquered will;
And the gray years which build us cruel walls
Have found and left thee ever victor still.

Ave Magister! Take from us to-night
The well-earned praise of all who love our art
For this long lesson of unending work,
For strength of brain, and precious wealth of heart.

Your busy hand gives much; but, oh, far more,
The gallant soul that teaches how to meet
Unfriended exile, sorrow, want and all
That crush the weak with failure and defeat.

We gave you here a home; you well have paid
With many gifts proud freedom's generous hand
That bade you largely breathe a freer air,
And made you welcome to a freer land.

Ave Amicus! If around this board
Are they who watched you thro' laborious years.
Beyond these walls, in many a grateful home,
Your step dismissed a thousand pallid fears.

That kindly face, that gravely tender look,
Thro' darkened hours how many a mother knew!
And in that look won sweet reprieve of hope,
Sure that all earth could give was there with you.

Ave Magister! Many be the years
That lie before thee, thronged with busy hours!
Ave Amicus! Take our earnest prayer
That all their ways fair fortune strew with flowers.

Dr. William H. Thomson was then introduced to speak of Dr. Jacobi as a physician. He reviewed the venerable physician's services to the science and practice of medicine, and was followed by Dr. William Osler of Johns Hopkins University, who spoke on "Dr. Jacobi as a Man of Science:

Gibbon very wisely says that the only one person capable of passing a correct judgment upon the works of an individual is the author himself. Who knows so well as he the merit of the performance; who so interested in them? Fully agreeing, as every author should, with this authoritative statement, I must begin with an apology to Dr. Jacobi for an attempt to usurp his function, but under the circumstances he will forgive me.

A first and most surprising impression in a review of our friend's literary work is its very modest amount—only three or four volumes, and some sixty major monographs and essays. Knowing the encyclopedic character of the man, how commendable seems this moderation! The first publication against his name is the Bonn Thesis, 1851, "*Cogitationes de vita rerum naturalium*." I doubt if Dr. Jacobi could now appreciate the *Cogitationes*. The thesis, which is modest only in size, has all the dogmatic freshness of the production of a youth of one-and-twenty. The conclusion of the whole matter is given in a few brief lines at the close: *Nil extra naturam, nil extra materiæ leges*, and there is a third and concluding phrase which I refrain from quoting. It is interesting to note so early in his career the influence of the great master, Rudolph Virchow, from whose writings several quotations are given. With one phrase I remember to have been caught years ago: "*Die Wissenschaften und der Glaube schliessen sich aus*." Science and faith have nothing to do with one another, and only worry comes from a neglect of that strong statement by Tennyson of their essential divergence:

"We have but Faith; we cannot know;
For Knowledge is of things we see."

Then comes the most impressive period in our author's life—silence for seven or eight years, during which I can find in indexes and catalogues nothing against either his name or his reputation. It is unique, almost, in the literary history of our profession. Would that this more than Pythagorean period of self-restraint could be emulated to-day! But think of the desolation to editors if all the graduates of all the schools of all these States thought and worked, but did not write for seven years after their graduation!

In this audience it seems almost superfluous to speak of the professional writings of Dr. Jacobi. Of his larger works the "Diphtheria" monograph and the "Treatise on the Therapeutics of Infancy and Childhood" have been guides and counselors to thousands of physicians all over the land. Nowhere has there been a better student of diphtheria or a sounder exponent of the subject than Abraham Jacobi. One of his earliest works, the contributions in connection with Dr. Noeggerath, I could not find. Dr. Jacobi mentioned the other night in Washington that it had cost them about a thousand dollars to publish them. I understand that it has disappeared absolutely. It is not known whether Dr. Jacobi possesses copies, nor is it known how much it cost the authors to buy up the entire edition, which is the only possible explanation of its rarity.

Of the monographs and special articles I should like to speak at length were there time, particularly of the splendid contributions upon the intestinal disorders of children. The monograph on the Thymus Gland is a model of careful research. You know as well as I of his scholarly and sound contributions in the various systems of medicine which have appeared from time to time. Of the many occasional addresses that entitled *Non Nocere*, before the International Congress at Rome, and the appreciative sketch of Virchow are models of their kind. I was much interested in one well-worn booklet in the Surgeon-General's Library—the earliest of his contributions in the collection of 1860 or 1861—in which a series of cases is narrated, and in which he gives a statement of how to teach the subject of pediatrics in practical classes in the dispensaries. In this he was, I believe, a pioneer in the United States.

I come now to what may be considered the most important part of his life's work, that relating to infant-feeding. It may be said that the safety of a nation depends on the care of its infants, and no one in this country has done so much for their bodily welfare as Dr. Jacobi. Had they any other language but a cry countless thousands of colic-stricken babes and sucklings would ordain great praise to him this evening. For more than thirty years we find this problem engaging his closest attention, and he has never tired of urging proper methods upon the pro-

fession and the public, methods which have always been characterized by his strong, clear sense. There is no single question before this nation to-day of greater importance than how to return to natural methods in the nature of infants, and you will pardon me if I here make a slight digression. The neglect of the natural mode is an old story in Anglo-Saxondom. St. Augustine, so Bede tells us, wrote to Pope Gregory complaining that the question of infant-feeding was worrying him not a little. I understand that a systematic effort is to be made to supply to every child born in this land its rightful sustenance for one year at least. Under the auspices of the Pediatric Society and the Woman's Christian Temperance Union, a Woman's Infant-Suckling Union is to be established which will strive to make it a criminal offence against the State to bottle-feed any infant, and which will provide in large and well-equipped sucklingries ample sustenance when a mother from any cause is unable to do her duty. Rotch tells me that the action on the part of the Pediatric Society has been influenced by an exhaustive collective investigation on the future of bottle-fed babies, in which it is clearly shown that intellectual obliquity, moral perversion and special crankiness of all kinds result directly from the early warp given to the mind of the child by the gross and unworthy deception to which it is subjected—a deception which extends through many months of the most plastic period of its life. According to these researches you can tell a bottle-fed man at a glance, or rather at a touch. *Feel the tip of his nose.* In all sucklings the physical effects of breast pressure on the nose are not alone evidenced in the manner set forth so graphically by Mr. Shandy, but in addition the two cartilages are kept separate and do not join, whereas in bottle-fed babies, in whom there is no pressure on the tip of the nose, these structures rapidly unite, and in the adult present to the finger a single sharp outline, entirely different from the split, bifid condition in the breast-fed child. The collective investigation demonstrates that all silver democrats, many populists and the cranks of all descriptions have been bottle-fed, and show the characteristic nose tip. Utopian as the scheme may appear (and directly suggested, of course, by Plato), who can question the enormous benefits which would follow the substitution of such sucklingries for the present Walker-Gordon Laboratories and other devices—benefits untold to helpless infants; blessings to thousands upon thousands of women whose energies would be directed into their natural lactiferous channels, and, most important still, a gradual elimination of those pernicious bottle-fed influences, to which may be attributed so many evils both to the State and to the individual.

Looking over Dr. Jacobi's books and papers, one gets the impression of an honesty of purpose and a sincerity in them all. There is no clap-trap, no gallery-play, but a faithful administration of an intellectual trust, and, what is more,

the professional spirit is reflected in them always on the nobler side. There is a double meaning in the well-known lines:

"Heard melodies are sweet, but those unheard
Are sweeter."

and let us hope that what may come from his pen in the future may excel his past performances. A volume of poems, "*Songs in Silence*," written in *der stille* of his prison-house, would be most acceptable, or a novel (of which Dr. Janeway has just spoken to me) in three volumes, or, better than either, his "*Jugenderinnerungen*," which he really should leave to us as an evening legacy.

To speak seriously, this magnificent demonstration is a tribute not less to Dr. Jacobi's personal worth than to the uniform and consistent character of his professional career. The things which *should* do not always accompany old age. The honor, love, obedience and troops of friends are not for all of us as the shadows lengthen. Too many, unfortunately, find themselves at seventy "nursing a dwindling faculty of joy," amid an alien generation. Fed on other intellectual food, trained by other rules than those in vogue, they are too often, as Matthew Arnold describes Empedocles, "in ceaseless opposition." Against this interstitial decay, which insidiously, with no pace perceived, steals over us, there is but one antiseptic, one protection, the cultivation and retention of a sense of professional responsibility. Happiness at threescore years and ten is for the man who has learned to adjust his mental processes to the changing conditions of the time. In all of us senility begins at forty—forty sharp—sometimes earlier. To obviate the inevitable tendency, a tendency which ends in intellectual staleness as surely as in bodily weakness, a man must not live in his own generation. He must keep fresh by keeping in contact with fresh young minds, and ever retain a keen receptiveness to the ideas of those who follow him. Our dear friend has fortunately been able to do this in a remarkable manner, since he is one

"Whose even-balanced soul
Business could not make dull, nor passion wild,
Who saw life steadily and saw it whole."

Mr. Carl Schurz, speaking upon the theme of "Dr. Jacobi as a Citizen," said in part:

"In him we see one of the adopted citizens whose peculiar patriotism is not always quite understood and appreciated by our native friends. It may strike some of you as somewhat audacious when I say that the adopted citizen may in a certain sense be a more jealously patriotic American than the native. And yet it is true. The adopted citizen usually preserves certain sentiments and reverential attachment to the country of his birth. But just because of this, many of them are especially anxious to see the country of their adoption by its virtue and the high character of its achievements justify their separation from their native

land, and enable them to point with just pride to the choice they have made. They may for this very reason, when they see the character of their adopted country put in jeopardy, or its good name in the family of nations endangered, resent this, and stand up for the cause of right, and of integrity, and of honor in their adopted country with an intensity of feeling even greater than that which ordinarily animates the native."

Then came the presentation of the "Festschrift." Dr. A. G. Gerster was deputed to hand the volume to Dr. Jacobi, and in doing so he said: "It was nearly two thousand years ago that the poet of the Augustine era, Horace, penned the boastful but true words, 'Exigi monumentum aere perennius.' Everyone knows how the prediction has been literally fulfilled. However, the poet's conviction would not have been thus confidently expressed had there not been underlying it the solid fact that of all men's works there is none more enduring than the written word. It is not strange, therefore, that when a group of five men met a year ago last February to consider a way in which the seventieth birthday of Dr. Jacobi ought to be celebrated, that the idea of publishing a 'Festschrift,' that is, a collection of literary contributions furnished by a number of willing friends and colleagues, was immediately adopted.

"I hold in my hand a volume containing the scientific contributions of fifty-three medical men of note, men representing two continents and eleven nations. This tribute of the veneration and esteem of the authors is adorned by a splendid etching, the product of the masterly needle of James D. Smillie, a faithful image of the Ambrosian features of the original. I trust that the contents of the volume may be found as worthy of him whom they are meant to honor as their outward garb."

Dr. Jacobi, rising to respond, was greeted with cheers that were again and again renewed. He was obviously moved by the warmth of the reception extended to him, and in beginning his address he expressed the wish that he could proceed from man to man and in silence press their hands, for words did not suffice for the throng of feelings that swelled his heart.

When he first came to this country, he said, he knew nothing of American medicine. It was simply unknown in Europe. Nor was America much better informed in regard to European medicine. With the exception of a few translations from the French and a number of English republications—called American editions—European literature was but scantily known and appreciated, except by the few. He reviewed the progress and development of medical education and institutions in this country in the period over which his knowledge extended. Continuing, Dr. Jacobi said:

"I take it for granted that I am expected to speak, in part, I suppose, of the topic of the evening—myself. But how? And what? I have been eulogized as if I were dead. Not being quite

dead yet, I should not join in the praise. On the other hand, to speak derogatorily of my doings would be discourteous to those who expressed their good opinions.

"In accordance with my democratic schooling, I was fortunate enough to have respect for the individual. That is why I found it easy to imagine myself in the place of a patient and to spare his feelings if I could not preserve his life. Where you cannot save you can still comfort. I never told a patient he had to die of his illness, and I hope I shall never be so careless or so indolent as to do so in future. The magnetic needle of professional rectitude should, in spite of occasional deviations, always point in the direction of pity and humanity. Another lesson I learned early was this, that my patient had to be treated, and not the name of his disease.

"Meanwhile the profession, and I among them, has plodded on. Untold thousands have arisen this half century of mine, or passed away. There were the wage-workers, the teachers, the pathfinders. There were those who fought disease or epidemics bravely and survived, or those who died in a single task and left their small children hungry. It is true the time has passed by when the doctor was killed when he lost a patient. That is different now. We are more civilized. We are satisfied with murdering his good name.

"The brave physician's work was always hard, for it is as difficult to save one life as it is easy to kill a thousand. That is why I cannot feel enthusiasm for the doctor who is occasionally puffed for leaving his humane work to participate in the killing; nor for the injustice of history that mentions a thousand generals to one physician. Some of what I have said may be objected to. But I know that the views I expressed were mine always, and are not engendered by advancing age. What, after all, is age? The boundary line between the young and the old is not, I take it, in the bald head or the gray whiskers, but in the change of a man's ambitions, motives and purposes, and of his relations to the world and its ways and aims. It is true I have been told even to-night that I am seventy, in the pleasant way, though, you have of showing your condolence. I can bear it as long as those not so old as I am accused of being treat me as their equal and call me young—for an aged man.

"A word to the young. I am afraid we old men are past changing; but it is a failing in our national character to be always cordial, always courteous, always handshaking. We do not identify the sin and the sinner; we abhor the former, and are too good-natured to shun the latter. If there be a danger to our morals and our politics, it is there. If you, the young men in the profession, will refuse approval and honors to men whose actions and methods you condemn; if you will only show them that your heart is chilled against them—some of them are in public positions—there will soon be an end to offences which need not always result from wickedness,

but bad taste only. There are those indeed among the vain who fear the display of bad taste more than the perpetration of sin.

"After all, however, when I look backward I really do not believe that the moral tone of the profession is lower than circumstances will always necessitate in this period where trade is everything. There was jealousy, strife, and competition at all times, and men were always human. The 'good old times' is an ideal that, while its consummation is too far ahead or beyond the horizon altogether, is searched for backward. Doctors were always what their time, their people, their surroundings made them.

"And this 'Festschrift'! These last weeks I wondered many a time, and I do so now, that I should be the receiver of that honor. When many years ago heroes like Virchow and then, again, Henschel, were to be held up for the admiration of the medical world, on both occasions I had the privilege of coöperating in the expression of the estimation in which they were held. This distinction is rare even in the country of my birth.

"That the country which adopted me and made me a peer among peers, opportunities to work, should in true cosmopolitan spirit adopt this method, rare enough in Germany, of raising a man to the greatest possible height of distinction and make him shine above all men—and this man I—is far, far beyond what was the culmination of all my possible hopes."

By the calendar the anniversary of Dr. Jacobi's birth fell upon May 6th, and although the dinner was begun the previous night, it was continued well into the early hours of the guest's natal day. At midnight the four hundred and more diners rose in a body and with filled glasses drank, to the accompaniment of song and cheers, a toast of long life and happiness to Dr. Jacobi.

The Festschrift is in the form of a volume of some five hundred pages, and is entitled "International Contributions to Medical Literature." It contains a symposium on medical subjects by a large number of French, German, English and Spanish scientists. Nearly a year was required to compile the work, which was planned after those presented to famous European scientists upon their anniversary. It is believed to be the first of its kind ever prepared in this country, and an edition of a thousand copies has been printed for distribution among the libraries and physicians of the United States.

MEDICAL PROGRESS.

Fortoin—A New Cotoin Preparation.—Overlach (*Wiener medizin. Blätter*, April 12, 1900) reports on the value in therapeutics of the new preparation of cotoin produced by the action of formaldehyd on the latter and called fortoin. It is a yellow, crystalline substance, with an odor suggesting cinnamon, and tasteless. The dose of fortoin is 0.25 gram for adults three times daily. As much as 0.5 gram can, however, be borne

without any disturbances arising. Its chief indication is the diarrhea arising from any cause in which the intestinal mucous membrane has been dislodged in places and carried off. Heretofore the tannin preparations have been used in such cases, but the disorder always returned with the discontinuation of the drug, for tannin does not cause regeneration of the membrane to take place. On the other hand, fortoin stimulates the membrane to renewed growth and activity, resulting in the rapid return to its normal condition in which proper resorption may again take place. Overlach has used fortoin in eight cases of typhus abdominalis of which five were indubitably benefited. Hemorrhage did not result in any of the cases. Fortoin seems to be a drug of considerable efficiency.

The Hair and Severe Fevers.—G. T. Jackson *N. Y. Med. Jour.*, May 5, 1900) gives several very useful hints in regard to the management of entangled and loose hair after severe illness. An attempt should be made to have the hair combed or brushed each day during the illness, and in this way bad snarls may be avoided. If, however, the patient recovers with a mass of entangled hair and is under fifteen years of age the hair may be cut, but after that age and even below it, if the patient can command good attendance, it is much preferable to have patience and disentangle the hair by quiet and persevering effort. He advises against shaving, as it entails a great deal of discomfort from wearing a wig and causes a good deal of useless embarrassment. Only the diseased hair is removed by daily combing. Once or twice per week a little pomade, containing a dram of precipitated sulphur to the ounce of cold cream, should be well rubbed into the scalp, or a three-per-cent. resorcin solution in alcohol and oil may be used. Once in two or three weeks a shampoo with any good soap, such as the tincture of green soap, should be given. After washing, the hair should be carefully dried and a little pomade rubbed into the scalp to take the place of the natural oil removed.

Guajacatin in Tuberculosis.—The most extraordinarily favorable results have been obtained by W. Meitner with guajacatin in tuberculous cases (*Wien. klin. Rundschau*, April 1st, 1900). The special points of preference are the prompt cessation of temperature, the lessening of the mucous secretion and the good influence upon the night sweats. Guajacatin differs from other remedies in that it has no effect upon the accessory organs. Indeed, upon the stomach it exerts even a beneficial influence, acting as an admirable stomachic. It is often of great advantage to combine encasin with this drug, especially in the old cases with intense gastritis.

Ichthalbin in Intestinal Affections.—From a study of a large number of cases suffering from catarrhal affections of the alimentary tract, B. Rolloy (*Munch. med. Woch.*, April 24, 1900) reaches the following conclusions: (1) Ichthalbin in maximum doses of 2 drams daily can be

taken continuously without causing constipation or irritation of the gut or kidneys. (2) It diminishes the excretion of nitrogen and thus allows of better proteid assimilation. (3) An increase in appetite and gain in weight are among its good results. (4) Abnormal putrefaction in the intestine is regularly diminished. (5) In simple chronic enteritis, as well as in cases complicated with chronic peritonitis or tuberculosis, good results are almost uniformly noticed. (6) Even subacute gastric and intestinal inflammations are favorably influenced. The proper dose is .5-10 grains three times daily for children under one year, and 10-15 grains for those over one year of age.

Treatment of Consumptive Poor.—It is, of course, almost always advisable to send those unfortunates who are afflicted with early pulmonary tuberculosis away from a city like New York and into a suitable climate amid pleasant and healthful surroundings. Among the poor, however, there are always numerous cases that are practically unable to afford such luxury, and it is, indeed, a problem to know how to manage such patients. J. F. Russell (*N. Y. Med. Jour.*, May 5, 1900) has detailed a plan which has been followed at the Post-Graduate Dispensary during the past two years with a moderate degree of success. The experiments were tried on those cases which showed unmistakable signs of tuberculosis and yet had not gone on to the formation of cavities or the involvement of large areas of the lung. All the patients were employed during the day, but were required to come to the dispensary twice each day, early in the morning, and in the evening. The plan of treatment followed was based on what is generally accepted as the most rational one, *vis.*, fresh air and sunlight in abundance, good food, plenty of sleep, regulated exercise and attention to the small things of daily life which are known to influence nutrition favorably. The instructions given included the injunctions that they must present themselves at the dispensary twice each day, Sundays and holidays included; that they must eat regularly the most nutritious foods within their means, alcohol being forbidden and tea and coffee limited; that they must keep their feet dry and warm and avoid overclothing; that they must sleep with windows open in all weather, and must keep in the open air as much as possible, avoiding places of amusement and late hours at night. No medicines were given except cathartics, but at each visit any change in the patient's condition could be noted and carefully attended to. A preparation of easily digested fats was also given at each visit to aid in the nutrition of the patient. By this means a large number of poor people suffering from pulmonary tuberculosis in a curable condition can be reached and successfully treated without interfering with their means of livelihood.

Bromipin in Epilepsy.—In an article by A. Kothe in the *Neurol. Centralbl.* is reported in the

Wiener mediz. Blätter (April 12, 1900) in which the author outlines the treatment of epilepsy with bromipin. Every case, whether of recent origin or not, is compelled to submit to absolute rest in bed for some weeks at first. This rest is disturbed only by two weekly baths in tepid water; the diet being hygienic-dietetic in character. No medication is resorted to at all at the beginning of the treatment. After the lapse of several weeks and at the termination of a severe attack the bromipin treatment is begun. The initial dose is about 15 grams, introduced per rectum and increased within six or seven weeks to 30 grams or even 40 grams, but never is a larger dose given than will just suffice to control the tendency to convulsions and the possible psychic disturbances. At that point the treatment remains for about two or three weeks, and then a gradual diminution in the administration of the bromipin to the original dose, is advised. The entire course of treatment occupies about a quarter of a year. Occasionally it is necessary to repeat the course once or twice, but in these repetitions it is not advisable to include the rest in bed. Whether the good results obtained by this treatment are due to the different methods of administering the bromipin or whether they are due to the different combination of the bromine remains to be seen. The chief value of any treatment for grand mal lies, in the author's opinion, in the strict regulation and method of the treatment and in the prolonged course during which such treatment is applied.

The Bubonic Plague.—Walter Wyman, Surgeon-General Marine Hospital Service, says (*Document 2165, Treasury Dept., Washington, 1900*) that the plague or malignant polyadenitis is caused by a coccobacillus, devoid of automobility, and best stained by a one-per-cent. carbolized solution of thionin. In persons recently dead of the disease it takes the form of a long slender, segmented, and vacuolated bacillus. It is carried about by rats, mice, snakes, beetles, bugs, flies, dogs and other animals which are susceptible to the infection, but not by the purely herbivorous animals such as horses, sheep, rabbits, etc. In many instances an excessive mortality among rats has been noticed previous to the outbreak among human beings, those being first infected who had handled the dead rats. The bacillus enters the body through a wound, or the air passages, or the alimentary tract. Its development is favored by heat and moisture, bad sanitary conditions, and insufficient food. The death-rate among Asiatics is from 50 to 90 per cent., but among Europeans is less than 20 per cent. The disease can be easily controlled by careful isolation and sanitation, one of the best disinfectants for rooms being formaldehyd gas. All evacuations, sputum, clothing, bedding, etc., should be disinfected, and the patient kept isolated for one month after apparent recovery. Among those attendant on the sick, one c.c. of the Haffkine prophylactic should be injected once

a month. The viability of the plague outside the animal body is very short, and it is probable that merchandise is not an important factor in spreading the infection. The period of incubation varies from twelve hours to eleven days. The disease has been classified clinically into the bubonic or ganglionic, the septicemic, and the pneumonic forms. Usually a small red spot marks the point of infection, and this becomes vesicular, and then pustular, and in the bubonic form a general redness, or a series of vesicles, may mark the passage of the infection along a lymphatic channel. The bubonic form begins with a chill, fever, much prostration, nausea, vomiting, pains in the head and limbs, and the rapid formation of a painful bubo surrounded by extensive edema. The glands of the groin, axilla and neck are most susceptible. If these break down and a general infection takes place the patient becomes rapidly septicemic, with stupor, delirium, and cardiac weakness. If the swelling is limited and an abscess forms, there is a marked amelioration of the symptoms and the prognosis is favorable unless secondary infection takes place. The bubonic form may be so mild as to go unrecognized, yet the patients may propagate the disease. In the septicemic form the glandular swellings may be very slight yet the fever, delirium and prostration indicate severe poisoning, and death ensues in a few hours; or the septicemia may be subacute with tendency to recovery. The pneumonic form is the most insidious in its onset, the most difficult of diagnosis, and the most fatal. The pulmonary signs are not evident for from one to four days after the onset of the disease; then there is pain in the side, difficult respiration, dullness, crepitant and subcrepitant râles, and a persistent cough, with tenacious dark-colored or bloody, or prune-juice expectoration. The consolidation is mostly lobular. In all types there is a tendency to hemorrhage into the spleen, kidneys, spinal cord, and subdural and arachnoid spaces. To sum up, plague is an acute febrile disease of an intensely fatal nature, characterized by inflammation of the lymphatic glands, marked cerebral and vascular disturbances, and by the presence of a specific bacillus. The only curative is the antiplague serum of Yersin and Roux, 30 to 50 c.c. of which should be injected at the earliest possible moment. This may also be used as a prophylactic in dose of 10 c.c. repeated every ten days. Among the sequelæ of the plague are boils, carbuncles, chronic suppuration of glands, eruptive skin diseases, and various paralyses.

Tumors of Vermiform Appendix.—In calling attention to the occasional appendix tumors, A. O. J. Kelly (*Proceedings Path. Soc. of Philadelphia, March, 1900*), reports two cases of fibromyoma, three of carcinoma and one of endothelioma. One of the former accompanied fibromyoma of the uterus and gave but mild symptoms. The endothelioma was accompanied by four separate attacks of pain, vomiting, etc.,

leading to the diagnosis of recurrent appendicitis. The appendix was easily outlined by palpation. One of the carcinoma cases gave typical symptoms of acute appendicitis, and pus was found at operation, but microscopical examination showed the malignant growth. Another of the carcinomata caused frequent attacks of abdominal pain, which were always relieved by free purgation.

Gonorrheal Arthritis.—Summing up forty-eight cases, James Stewart (*Montreal Med. Jour.*, March, 1900), finds that all the patients were young adults, six were females, three only gave previous history of inflammatory rheumatism, fifteen had had gonorrhea arthritis before, and in twenty-six it was the first attack of gonorrhea. The arthritis appeared at any time from the third week of the discharge until long after the urethritis had subsided. In most, the urethritis was still active, in some it had become chronic, in four the genito-urinary system was normal. Some cases began with sudden pain and inflammation usually occurring at night; in many the onset was gradual with involvement of one joint and slow extension to others. Most were polyarthritic, some became chronic, many were left with impaired joints or even complete ankylosis. In seven cases the heels and soles alone were affected. Three cases were septicemic with fever and grave constitutional disturbance. The knee was most frequently attacked. Next the heel and plantar fascia, then in order, ankles, feet, elbows, shoulders, wrists, hands, vertebrae, temporomaxillary, sternoclavicular, and thyro-arytenoid. The commonest complication was endocarditis, next iritis. For treatment, salicylates, salol, potassium iodide and alkaline mixtures, and the local application of iodine were valueless. The best results were obtained from rest in bed, low diet, the exposure of the joint to dry heated air at 300° F. for half an hour by the Tallerman-Sheffield apparatus, and hot fomentations, or blisters, with fixation by splints, and, in the chronic cases, massage.

Mothers and Alcohol.—Maurice Nicloux (*L'Obstétrique*, March 15, 1900) reports an extensive series of experiments with the following conclusions: Ingested alcohol passes from the mother to the fetus and into her milk, the proportion in the blood of the fetus, and in the milk being about the same as in the blood of the mother. Therefore the nervous conditions, drunkenness, anesthesia, etc., of the drinking mother must indicate a marked toxicity in the infant, and the whole baneful influence of alcohol upon the tissues is exerted during their process of formation, with especial injury to the nervous supply.

Treatment of Fibroids.—W. Duncan (*Lancet*, April 27, 1900) says fibroids often cause deterioration in general health when they do not produce hemorrhage. Diseases of the heart and arteries are often associated with them. Abortion is liable to occur and the prognosis is grave.

Parturition is often dangerous. Operation should be performed only in cases where the symptoms demand it, as in menorrhagia; metrorrhagia; various marked pressure symptoms; increase in size of the tumor, especially after the menopause. Drugs and electricity are merely palliative. Of the various surgical measures, curettage with the removal of polypi and submucous fibroids often gives very great relief. Removal of the appendages frequently fails to stop the growth and the hemorrhages, and the mortality is not insignificant. Morcellation through the vagina and dilated cervix is unsurgical and dangerous except in case of small or polypoid submucous fibroids. Enucleation of large tumors has a far higher mortality than hysterectomy and no compensating advantages. Saving the uterus under these circumstances is a source of danger, for it is unduly thin and in a state of degeneration unsuitable for gestation. These statements apply with equal force to subperitoneal myomectomy. When operative treatment is demanded, abdominal intraperitoneal hysterectomy is by far the best, since its mortality is slight (1 to 2 per cent.) and it gives the best opportunity of examining and dealing with the ovaries and tubes. It is also desirable to leave a small piece of cervix so as to avoid opening the vaginal canal. The ovary and tube of one side at least should be left in if possible, for convalescence is easier, the artificial menopause is not produced, and the sexual feeling remains. The causes of death after hysterectomy are heart failure and intestinal paralysis. For the heart strychnine and brandy should be used for a few days before and after operation. As to intestinal paralysis, prevention is the best treatment. A rectal tube is passed high up every four hours, and if flatus is not passing in twenty-four hours, an ounce of turpentine in a pint of hot water is injected high into the bowel, repeated at intervals of four hours if necessary. Saline aperients are useless. If well-marked tympanites once appears death is almost certain.

Lung Disease Caused by Inhalation of Dust.—Cn. Bäumlér (*Münch. med. Woch.*, April 17, 1900) points out the great resemblance between certain forms of pneumokoniosis and tuberculosis. The patients are generally advanced in life, poorly nourished, and suffer from cough and muco-purulent expectoration with slight fever. On examination consolidation of one or both apices will be found. The absence of tubercle bacilli in the sputum and the great improvement which follows mere rest and proper hygiene would, however, militate against consumption. Should the morbid process continue, emphysema, putrid bronchitis, bronchiectasis and finally tuberculosis may result. As a valuable physical sign in the diagnosis of pneumokoniosis, with or without complicating tuberculosis, the author mentions the retraction of the upper anterior lung margin on one or both sides which can readily be demonstrated by percussion over

the sternum and which is sometimes so marked as to lay bare the entire anterior mediastinum.

Diabetic Laryngitis.—Patients whose urine contains an appreciable amount of sugar but whose general health has not yet suffered will often consult the physician for a peculiar dryness of the throat and insufficiency of the voice after use. On examination the posterior pharyngeal wall is found to be dry, smooth, glistening and copper-colored and the vocal cords have a peculiar shiny, glazed appearance. O. Leichtenstern (*Münch. med. Woch.*, April 17, 1900) considers these signs as diagnostic of early diabetes. With proper dieting, the parts will return to the normal, showing that there merely is a hypersecretion without pathological change, although the latter may develop in the form of a sclerosis when the diabetes persists.

Cardiac Hypertrophy in Renal Disease.—A. Bier (*Münch. med. Woch.*, April 17, 1900) looks upon the enlargement of the heart in Bright's disease as a useful, compensatory process. It is well known that the cells of the convoluted tubules remove excrementitious matter from the blood. Since a great number of these cells are destroyed by the connective tissue proliferation an increased amount of work falls upon the remaining ones which require a large amount of fluid to prevent an accumulation of the toxic products within them. Thus follows polyuria, and this again necessitates cardiac hypertrophy. Although the process so far is salutary, it is obvious that the greater strain to which the arterial system is exposed will eventually lead to endarteritis, while finally there must come a time when either the overworked heart or blood-vessels will no longer bear the pressure and degenerative process will occur.

Extirpation of Gasserian Ganglion.—H. Cushing (*Jour. Am. Med. Assoc.*, April 28, 1900) publishes an operation for removing the Gasserian ganglion which necessitates less manipulation of the brain, causes less hemorrhage, and gets the ganglion out in toto more easily than other methods. A horseshoe incision is made, base 4 cm., on the zygomatic arch, convexity slightly higher than the pinna of the ear. This skin-flap is turned down exposing the temporal fascia well down to its attachments to the malar bone and zygoma. Along the outer surface of the zygomatic arch an incision is made through the periosteum which is raised from the upper portion, leaving the masseteric attachments intact, and the ends of the zygomatic arch are cut through by bone forceps. An incision through the temporal fascia and muscle is then made concentric with the skin edge, and the soft structures retracted well down from the temporal fossa which is then completely exposed. With a gouge a small opening is made through the most prominent part of the great wing of the sphenoid and enlarged by the rongeur to 3 cm. The middle meningeal runs on the dura across the opening, and both may be lifted from the middle fossa as

far as the firm attachment to the foramen ovale. Between the firm attachments of the dura to the foramen ovale and rotundum the envelope of the ganglion may be split, and by careful dissection its entire upper surface exposed, care being used not to disturb the ganglion itself since its blood-supply comes mainly from below. Then the ganglion is liberated by blunt dissection from the base of the skull, the second and third branches and, finally, the sensory root and first division are liberated, when the ganglion may be removed entire by cutting the three branches and evulsing the sensory root. This order of procedure gives the least bloody field of operation. By staying close to the sensory root one is less apt to damage the cavernous sinus or the sixth nerve. The brain is then allowed to fall back into place, and the muscle, fascia and skin sutured. The wound heals by primary union without drainage.

Tuberculosis of the Skin: Accidental Inoculation.—The danger of inoculation of the skin with tuberculosis, which laryngologists and other practitioners run, is well illustrated by the following case reported by Jay L. Schamberg (*Jour. Cutaneous and Genito-Urinary Dis.*, May, 1900). The patient was a laryngologist who accidentally cut out a piece of the skin about one-eighth inch in diameter on the knuckle of the left thumb with the nail of the right thumb. The cut extended into the true skin. This cut did not heal over for six or eight weeks. Scabs formed over it, but pus collected under each and it broke open again and again. The tissue, after healing around the edges of the scab, became reddened, hypertrophied, and hypersensitive, extending until it was one-half inch in length and five-eighths of an inch in width. This tumor was ovoidal in shape, of a bluish-red color, soft to the touch, and was elevated about one-quarter of an inch. It was smooth except for several small pin-head depressions. It was not warty in character, nor was there any apparent thickening of the horny layer of the skin. The tumor varied in size from time to time and was somewhat compressible. There was slight pain on pressing the growth. The patient was treating two patients for tuberculosis of the larynx at the time he cut himself. The tumor had lasted seven months when the writer made the diagnosis of tuberculosis of the skin and excised the growth. The wound healed nicely and there has been no recurrence in five months. The microscope demonstrated a tuberculous nodule. No tubercle bacilli were found in the few sections in which search was made for them. Two guinea-pigs were inoculated with fragments of the tumor. One died and the autopsy showed extensive tuberculosis. When the other was killed, there was found a cold abscess, containing creamy pus, at the site of the wound, and a number of tuberculous nodules on the liver. Schamberg says that this growth cannot be classed accurately with any of the existing clinical types of tuberculosis cutis.

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SATURDAY, MAY 12, 1900.

EPIDEMIC CEREBROSPINAL MENINGITIS.

EVERY year, especially in the spring, some cases of epidemic cerebrospinal meningitis occur in various parts of the country. Last year a series of contributions from the South and Middle West showed that the disease was not omitting its annual visitation. This year reports show that the disease is not quiescent.

For a time it seemed that the discovery of the meningococcus intracellularis by Weichselbaum solved definitely the problem of the etiology of the disease. Further investigation has shown, however, that the solution is not as simple as at first anticipated. Many of the cases of sporadic cerebrospinal meningitis are due to meningeal infection with the pneumococcus; epidemics of pneumococcus meningitis have also occurred. This infection is often secondary to pneumonia, but is also not infrequently primary. The occurrence of pneumonia during the course of a cerebrospinal fever does not absolutely stamp the affection as due to the pneumococcus. Pulmonary affections resembling very closely croupous pneumonia have been demonstrated to be due to the meningococcus intracellularis.

The mortality of genuine cerebrospinal fever—

the spotted fever of the older authors—is, as is well known, very high, more than 50 per cent. of the cases terminating fatally. The prognosis of pneumococcus meningitis is absolutely unfavorable. Not a single case of recovery from the affection is considered ever to have taken place.

Besides these two microorganisms there are others that give rise to cerebrospinal meningitis. Netter is of the opinion from observations in Paris that most of the cases of presumed epidemic cerebrospinal meningitis, in that city, are not due to the Weichselbaum-Jaeger micrococcus, but to one that has certain differential characteristics. It is probable that these forms of the disease can be differentiated clinically as well as bacteriologically and an interesting problem in diagnosis be thus elucidated.

The use of lumbar puncture in this disease, in thousands of cases, shows how absolutely innocuous is this procedure. When the microscopic investigation of the cerebrospinal fluid is positive it constitutes the only absolutely pathognomonic sign of the form of meningitis present. An important aid in diagnosis that has been taken advantage of in very recent years is the microscopic and cultural investigation of the secretion from eyes, ears, and nose. In all of these the characteristic meningococcus has been found. This gives the clue to the mode of distribution of the disease, which, up to the present time, has been a mystery. The necessity for the most careful antiseptic precautions in the disposal of these secretions is now manifest. While the disease has never been virulently contagious, a certain number of cases in every epidemic have occurred among those in immediate contact with patients.

The only therapeutic hint of any promise that is to be found in the recent literature, for, almost needless to say, lumbar puncture has proved of no service therapeutically, is the use of the Credé ointment. A number of cases in the hands of various careful observers have apparently been benefited by this remedy. The affection is, however, so uncertain in its mortality that only encouragement, not assurance, is afforded by the reports.

THE TENEMENT-HOUSE COMMISSION AND ITS WORK.

It is gratifying to know that the Tenement-House Commission appointed by Governor Roosevelt April 16th, in accordance with the law enacted by the State Legislature during the past winter, has already organized and begun its work.

The progress of its investigations will be followed with constantly increasing interest. The various factors in the case multiply rapidly as the work progresses and lend an ever-increasing fascination.

By the terms of the bill the Commission is directed to make a careful examination into the condition, construction, healthfulness, safety, and rentals of tenement-houses, and the effect of tenement-house life on the health, savings and morals of those who live in them. The attendance of witnesses is compulsory and fifteen thousand dollars has been appropriated for the expenses of the Commission, although the members serve without compensation. There is thus brought under the province of this Commission a study of the widest possible range of sociologic problems relating to the morals, the health and the general well-being of the largest part of New York City's population. These problems are of the first interest to the medical profession and we purpose to study them in their various phases, obtain if possible a more intimate knowledge of the tenement-house question and emphasize to the Commission the pressing need of reform from the standpoint of sanitation.

That the profession may have assurance of the comprehensive scope of this Commission in its make-up and of the earnest the Commission gives of valuable and far-reaching conclusions, it is important to know who are the men that have been selected to serve upon it. And we find that the Commission is composed of physicians, of practical architects and builders, of lawyers who have made a special study of the subject and men who have filled public administrative positions. Then there are representatives of the wage-earners, the tenants and the tenement-house proprietors. So admirably have the members of this Commission been selected that to fully appreciate the excellence of the work that may be expected of them the list is herewith appended:

Raymond F. Almirall of Brooklyn; architect, of the firm of Ingle & Almirall, who studied his profession at Cornell University and the Ecole des Beaux Arts, in Paris.

Hugh Bonner of Manhattan; ex-Chief of the Fire Department of New York City.

Paul D. Cravath of Manhattan; lawyer, of the firm of Seward & Guthrie.

Robert W. De Forest of Manhattan; lawyer and President of the New York Charity Organization Society.

William A. Douglas of Buffalo; lawyer and trustee of the Charity Organization Society of that city.

Otto M. Eidlitz of Manhattan; builder, of the firm of Mark Eidlitz & Son.

F. Norton Goddard of Manhattan; merchant and Aide-de-Camp on the Governor's staff.

Dr. Elgin R. L. Gould of Manhattan; President of the Suburban Homes Company and ex-statistical expert of the United States Department of Labor and an owner of tenement-houses.

William Lansing of Buffalo; architect.

William J. O'Brien of Manhattan; representative of labor organizations and candidate for Sheriff of New York County at the last election.

James B. Reynolds of Manhattan; head worker of the New York University Settlement.

I. N. Phelps Stokes of Manhattan; architect, of the firm of McKim, Mead & White.

Myles Tierney of Manhattan; a retired builder and manager of the New York Catholic Protectory.

Alfred T. White, of Brooklyn; President of the Brooklyn Bureau of Charities, ex-Superintendent of Public Works, and an owner of tenement-houses.

Dr. George B. Fowler of New York; physician and Health Commissioner under the administration of Mayor Strong.

ECHOES AND NEWS.

NEW YORK.

Pauper Labor Abolished.—Commissioner Keller, of the Department of Charities, has extended his crusade against pauper labor in the department hospitals by discharging one-half such hangers-on in Bellevue Hospital.

Vaccination Stations.—The Board of Health has sent out announcements that arrangements for vaccinating children have been completed. One station is located at 68 and 78 Elm Street, where children can be vaccinated daily, except Sunday, between nine and four o'clock. The headquarters of the Department of Health, Sixth Avenue and Fifty-fifth Street, has also been designated as a vaccination station. Children will be received on the same days and between the same hours.

Colored Nurses.—A training school for nurses was established in connection with the Colored Home and Hospital in New York in 1898. It continues in successful operation and the managers are now able to supply colored nurses, who have been well trained in surgical, obstetrical and medical nursing. These nurses are specially adapted to care for people of their own race. There should be a large demand for them, especially in the Southern States.

Licensing Midwives.—The case reported during the past week of a death from septic peritonitis following abortion, criminally performed by Helen Kersten, a professional midwife, again calls attention to the necessity of proper supervision of midwives. The bill now waiting the Governor's signature, however, does not place the supervision in the hands of the proper authorities, and the members of the profession should make their opposition felt by addressing emphatic letters to the Governor.

Warning to Doctors.—A man of somewhat advanced years, introducing himself as Dr. Campbell and displaying credentials from McGill University at Montreal, is going the rounds of doctors' offices asking for alms. Dr. Joseph D.

Bryant and others have been victimized and warn their professional brethren against the mendicant practitioner. A letter from the Registrar of McGill University elicits the information that they know no such man as Dr. Campbell.

Death of Dr. Gray.—Dr. Landon Carter Gray died at his home in New York Tuesday morning, May 8th. Dr. Gray had been suffering for several years from atheromatous arteries and chronic Bright's disease, complicated by heart-lesion. The disease assumed a more acute form about two months ago, confining the Doctor to his bed. He made no mention of his illness, however, and his interest and active work as Chairman of the Committee of Arrangements of the Triennial Medical Congress has been so energetic, that his failure to appear at the opening of the Congress to set the wheels in motion, and the announcement that it was due to illness, came with no little surprise, even to many of his intimate friends. His death occasions sincerest regret to his host of professional friends.

PHILADELPHIA.

Army Nurses.—The Memorial Association of Army Nurses of the Civil War is planning the erection of a monument to deceased members. An entertainment for the purpose of raising funds was recently given, none of those who arranged it having served less than three years during the war.

Health Report.—Deaths for the week ending May 5th were 517, a decrease of 101 from those of the previous week, and an increase of 40 over the corresponding week of last year. Contagious diseases: Diphtheria, 86 cases, 20 deaths; scarlet fever, 78 cases, 6 deaths; typhoid fever, 79 cases, 8 deaths. Influenza is waning, only 8 deaths being reported. One new case of small-pox appeared and the health officials are continually on the alert to prevent the spread of the disease.

Contagious Cattle Diseases.—A total sum of \$28,000 has been paid to farmers of the State for tuberculous cattle killed during the past year. Unscrupulous dealers have endeavored to buy diseased cattle and ship them to States where inspection laws are not in force. Anthrax was reported in 12 counties of the State and several persons were infected by the diseased animals. One veterinarian lost his life from being inoculated while making a post-mortem examination of an animal.

Death from Starvation Cure.—The latest fad in medicine in the northeastern part of the city has met with a decided reverse in the death of one of its adherents. Reports of wonderful cures of obesity, dropsy, etc., by prolonged fasting have been plentiful during the past winter. A certain Mrs. Meyer fasted thirty-five days as a cure for chronic rheumatism. Tonicum and physiological salts were given, but the leader of the star-

vation cult admits that they contain no food. After the cure of the rheumatism was in sight, as the leader says, the woman died of heart-disease. A physician who was summoned believes that death was due to starvation. The husband accepts the theory of heart-failure.

Academy of Surgery.—At the meeting of May 7th, Dr. Spellisy exhibited methods of head extension in Pott's disease and also a brace for lateral curvature. The latter appliance is very light, consisting of a pad, pressure on which is secured by springs. The apparatus is applied to keep the patient from sagging into the original position between intervals of treatment. It is not curative except as it prevents sagging which would tend to make the patient worse. He finds that the only way to keep patients in the proper position is to apply something of this kind to make them uncomfortable when they relax themselves and tend to assume the old position. He intends to add a brace in front in order to secure pressure upon the deformed ribs.

Dr. Wharton reported several cases of fracture of the leg and of the humerus, the head of the humerus being resected in one case of comminuted fracture. He stated that in the great majority of cases of fracture involving a joint in young persons it was better to cut down and expose the part in order to determine treatment. In discussion Dr. Allis stated that since the days of antiseptics the order of things has been reversed and now he almost dreads a simple fracture instead of a compound. When he can cut down upon a fracture he feels that he has command of it. He recommends cutting down upon fractures of the neck of the femur. In one case seen by him there was good union but the patient had no use of the joint and pain persisted. When the patient died autopsy showed a sharp fragment of bone projecting into the tissues. Laying the parts open at the time of fracture would have prevented this. Such treatment will often relieve pain even if a good limb cannot be secured.

Pathological Society.—At the meeting of April 26th the Society was addressed by Prof. Theobald Smith of Harvard University, his subject being "The Relations of Comparative Pathology to Biology and Medicine." The importance of comparative pathology lies in widening the horizon of the pathologist, the exploitation of human diseases leaving many questions unsolved. Comparative pathology is the study of disease in itself, not as to its cure, etc. The biologist uses facts thus obtained and is in turn succeeded by the human pathologist, the latter furnishing data for the clinician. Experiments determining the effects of diseases upon the higher animals should be the work of governments, and they can afford to maintain an expert for every plague. There should be an alliance between the Government and our higher institutions of learning. Pathology as a phase of biology could be taught in colleges which give courses preparatory to medicine. With animals the disease can be studied as it is

continued in the same species and it can be studied at all stages, as the life of the animal can be terminated at any stage desired. The speaker strongly urges the establishment of institutes for the study of animal diseases.

CHICAGO.

Incineration of Garbage.—Within a week or so some of the city officials will make a trip to Toledo to inspect the garbage-crematory system employed in that city. Specifications for the construction of a plant in Chicago authorized by the City Council in its annual budget, for which \$100,000 was set aside, are being prepared and the street officials desire to examine systems in other cities before closing any contracts for the establishment of incinerating plants here. It is the intention to secure a plant that will consume all the waste materials without the separation of garbage from ashes. The new plant will be built on the Bridewell grounds, and when placed in operation will dispose of the garbage in the immediate vicinity of the Bridewell and along the river, from which the material can be easily transported.

Public Health Matters.—Of contagious diseases the total number reported was 108 during the week ended April 28th, of which 61 were scarlet fever, 28 diphtheria, 10 measles, 9 smallpox. There were 9 per cent. fewer deaths reported during the week than the week previous, and the death-rate is slowly assuming normal proportions. Pneumonia, bronchitis and other affections, complicated by influenza during the past three or four months, show the greatest decrease, while the deaths reported from uncomplicated influenza fell from 18 during the week which ended April 21st to 9 last week.

Fallacies of Hypnotism.—At a meeting of the Physicians' Club, April 30th, Dr. S. Kuh presented a paper on this subject. In experimenting with any new remedy there are two questions which we are most anxious to have answered: (1) Is the new remedy as safe as, or safer than, other methods employed for the same purposes? (2) Is it more active in giving relief than other remedial agents? The author cites a number of cases in which hypnotism caused very serious, in some instances even fatal accidents and refutes the statement so frequently made that such accidents are due to improper use, ignorance or carelessness. He points out that hypnotism acts only by increasing suggestibility and that there are other methods of achieving this same end, that any exalted emotional condition, such as hope and fear, will do the same. He refers to a series of experiments made with suggestion in the waking state, for which purpose hypodermic injections of aqua destillata were used and which yielded most satisfactory results. His conclusions are that hypnotism is dangerous, that there are other and safer remedies known to us and that we ought to be particularly careful in its

use, because the very cases which are most liable to be benefited by hypnotic suggestion—the neurotic patients—are also most easily and most seriously injured by its use.

Therapeutics of Hypnotism.—Harold N. Moyer discussed suggestion without hypnotism as a therapeutic agent. He said that any discussion of hypnotism must state the theories upon which it rests. Suggestion is no new discovery, nor a new force which had been created during the last few years, but it has existed ever since the nervous system has developed beyond that of a mere reflex mechanism. The older psychologists found no place for the experiments and observations of Braid and Mesmer. The metaphysical conception of the mind which denied reason to animals, made no study of diseased minds, and did not recognize the essential continuity of nervous phenomena, could find no place for observations such as these. The later psychology, which does not make these artificial distinctions and which broadens the term mind to include subconscious mental phenomena, offers an excellent explanation of the phenomena of suggestion. The subconscious mental phenomena may be easily reached by suggestion, if hypnosis is produced. Perhaps it is as readily and even more easily reached in many cases where the individual is awake. In the writer's judgment, hypnosis adds very little to the value of suggestion. In those cases in which it is readily produced, suggestion is quite as efficient in the waking state, and he is of the opinion that persons who are readily hypnotized are injured by the induction of hypnotism if it is frequently repeated. The known dangers of hypnosis should place it always in the hands of trained medical men.

Exophthalmic Goiter with Mitral Insufficiency.

—At a meeting of the Chicago Medical Society, May 2d, Dr. Edward F. Wells presented several cases. The first was that of a man forty years of age, of negative personal history, who developed exophthalmic goiter eight years ago. The ordinary symptoms and signs are present, except tachycardia. There is cardiac enlargement and an apical systolic murmur with arrhythmia. Blood examination shows: specific gravity, 1063; hemoglobin, 103 per cent.; erythrocytes, 5,125,000; individual corpuscular richness in hemoglobin, 101 per cent.; leucocytes, 19,400—polymorphonuclear cells, 75½ per cent.; mononuclear cells, 20 per cent.; eosinophiles, 2½ per cent. In comment it was said that the mitral regurgitation in connection with, and probably as a consequence of exophthalmic goiter is uncommon. Attention was called to the bearing which an examination of the blood may have upon the diagnosis of organic from anemic cardiac murmurs. The sphygmograms presented were asserted to be indicative of mitral regurgitation.

Pulmonary Tuberculosis; New Diagnostic Sign.

—The patient, a male, has been under observation four years, during which time he has had

four attacks of hemoptysis. Only recently have distinctive physical signs and bacilli in the sputum been manifest. Two weeks ago, and for a week, the evening temperature reached 99.8° F., being normal since. Arterial tension is reduced. Each of the thumb-nails shows five shallow transverse depressions. This sign was present upon the thumb- and finger-nails of two other patients shown. The speaker said that his attention was called to this sign several months ago and he has observed it in a very considerable number of cases since. It was offered as one of the minor contributory diagnostic signs and derives its importance as indicating short and more or less regularly recurrent periods of interference of nutrition, due to febrile attacks. The depressions are usually very shallow. They do not denote the presence of tuberculosis but are present in this affection and in the manner described.

Chlorosis; Method of Blood Examination.—The speaker laid particular stress upon the care required in the management of chlorosis and its tendency to relapse. He is of the opinion that some leading recent authors have, probably unwittingly, minimized these features. In the routine examination of the blood in private practice the following procedures were advocated: The lobe of the ear is rubbed with chloroform and pricked with a Beers' cataract knife; the knife is dipped into the benzole-chloroform mixture and the drop of blood is taken up with the back of the blade from which it is dropped into the above mixture by gently striking the back of the knife on the edge of the urinometer jar; two cover-glasses are now spread and a drop of blood on another cover-glass is put upon a slide; the large tube of the Thoma-Zeiss counter is now filled; a hematocrit-tube is next filled and the flow of blood checked (by the patient) by pressure. The hematocrit is now resolved and the volume of red corpuscles and approximate number estimated; next the Thoma-Zeiss cell is filled and placed upon the stage for settling; next benzole and chloroform are alternately added to the stock mixture (specific gravity 1050), with stirring until the drop of blood and mixture are in equilibrium and take specific gravity; utilize a drop of serum from the hematocrit in the same manner; next count the white corpuscles; next examine the slide of fresh blood for size and character of erythrocytes, rouleaux formation, etc.; now fix the dried cover-glass smears and stain, with Ehrlich's tri-acid stain and one with eosine and hematoxylin and examine at once or at leisure. These procedures give information as to the specific gravity of the blood and of the serum; the percentage of hemoglobin, using Hammerschlag's table; the volume and appropriate number of erythrocytes, together with their size, character and tinctorial qualities; the individual richness of the cells in hemoglobin and, lastly, the number, staining qualities and differential count of the white corpuscles. The entire amount of time occupied is

not too great to be expended by the busy physician, and most of it may be delegated to an assistant. The extent and character of the information to be gained is of real value.

The American Gynecological Society.—At the recent meeting of the Society in Washington, D. C., the following officers were elected for the ensuing year: President, Ely Van de Warker, Syracuse, N. Y.; vice-presidents, Charles Jewett, Brooklyn, and Richard B. Maury, Memphis, Tenn.; treasurer, J. Montgomery Baldy, Philadelphia; secretary, J. Riddle Goffe, New York; members of the council, Matthew D. Mann, Buffalo; William R. Pryor, New York; Seth C. Gordon, Portland; Joseph Taber Johnson, Washington.

GENERAL.

Health of Boer Prisoners.—The English Under-Secretary for War has made the following statement regarding the condition of the Boer prisoners: In all 3899 prisoners have been confined on board ship, of whom 9 have died; there have been altogether 120 cases of measles, 75 of typhoid fever, and about 30 of other ailments.

Osteopathy Not Illegal.—An osteopathist in Oil City, Pa., has been acquitted of the charge of illegally practising medicine. Judge Criswell decided that present laws have no bearing on this process of healing. The decision is regarded as an important one in establishing the legal status of osteopathy.

Plumbers Seek to Lower Death-rate.—The Journeymen Plumbers' Association wishes to secure improved sanitation in Philadelphia and has asked the aid of physicians in this effort. The death-rate from diphtheria is stated to be higher than in any other city in the country. A plea is made for intelligent, educated men as plumbers in order that the above ideas may be carried out.

Hospital Ship "Maine."—The "Maine" sailed from England for South Africa May 1st. The women nurses, formerly assigned to her, have been replaced by men. No charges are made against the women, either of incompetency or of any other nature; the change is due entirely to economic reasons. Women take up more room than men nurses, and are found physically unable to carry patients up and down from the decks, as is most desirable in passing through the tropics. It is evidently the intention to utilize the "Maine" as a transport hospital ship.

Better Ventilation in Theaters.—The City Council of Chicago will soon investigate the complaints that have been lodged with the Health Department by the Actors' Society of New York against the sanitary conditions existing in a number of the cheap theaters in the former city. The requests for investigation come from persons who have been playing in them. Sanitary Inspector Young has received complaints also of the unhealthy condition of the air in theaters, especially where there are continuous performances.

It is a crying shame that theaters are not so constructed that they can receive the sunlight, which is the best preventive of germ-growth.

American Surgical Association.—The following officers were elected for the ensuing year: President, Dr. Roswell P. Park, of Buffalo; vice-presidents, Dr. J. J. Owens, of Chicago, and Dr. C. Parkhill, of Denver; secretary, Dr. H. L. Burrell, of Boston; treasurer, Dr. G. R. Fowler, of New York; recorder, Dr. De Forest Willard, of Philadelphia. The next annual meeting will be held in Baltimore, May 7, 8 and 9, 1901. The following new members were elected: Drs. Bevan, Harris and Ochsener of Chicago, Dr. McDonald of Albany, Dr. Brewer of New York, and Drs. Oliver and Taylor of Philadelphia.

Physicians Going to Paris.—Under the auspices of the Illinois Medical Association, about three hundred doctors and their families from Illinois, Iowa and Missouri, will visit the Paris exposition in a body. It is expected that there will be at least five hundred in the party when they sail from New York on June 30th. The excursion was organized for pleasure, but many of the leading medical institutions and hospitals on the Continent will be visited.

Aseptic Barber-Shops.—The Boston Board of Health has issued regulations providing definite rules for the management of barber-shops. These rules provide that mug, shaving-brush and razor shall be sterilized after each separate use by immersion in boiling water. The use of powder-puffs is prohibited, and sponges likewise.

The Army Canteen.—By order of the French Minister of War, the army canteen, as it exists in the French army, has been greatly curtailed in its functions. The habitual taking of brandy, absinthe, vermouth, and other spirits, under the guise of *apéritifs* (appetizers) is held responsible for much of the morbid irritability and general demoralization of the rank and file of the army. Henceforth only light wine, beer and cider will be dispensed to the French army canteens.

Funds for the Congress.—At a meeting of the American National Committee of the XIIIth International Medical Congress, held at the Cosmos Club, Washington, May 2d, the secretary reported that already about two hundred American physicians had joined the Congress. It was unanimously voted that the President of the American Medico-Psychological Association be added to the Committee; and farther voted that the organizations the presidents of which compose the Committee be requested to contribute to the expenses of said Committee.

American Therapeutic Society.—In pursuance of a call for an American Therapeutic Society issued by the Therapeutic Society of the District of Columbia, a meeting was held in Washington, May 1, 1900. The organization was effected and much enthusiasm displayed. The following were chosen as officers of the new society which expects to become affiliated with the Congress

of American Physicians and Surgeons which meets in Washington every three years. The meetings of the American Therapeutic Society will be held annually, the next meeting being in Washington, D. C., May 7, 1901.

The Plague.—No further news of the spread of the plague has been received from Hong Kong, Japan, Mauritius, or Australia. The most serious condition of the last named place consists in the fact that plague-infected rats have been found in the wharves of Melbourne, Brisbane and Auckland (New Zealand). The advance of the epidemic has not been stayed in India, and the sad news has recently been received from Bombay, May 5th, that a serious outbreak of cholera has occurred among the natives at the famine Relief Works; the deaths average 50 per day. Two hundred of the natives have become panic-stricken and fled from the town.

The Railroad as an Engine of Sanitation.—It is announced that the Sultan has consented to the building of a railway and telegraph line straight to Mecca. There is much more in this than a mere opportunity to satisfy globe-trotting curiosity. The *New York Times*, in remarking upon this, says: "A railroad to Mecca means the penetration of modern ideas to a region where they are woefully needed, and where their absence has constituted a standing menace to the rest of the world. For centuries the Holy City has been constantly receiving and distributing fatal infections on a wholesale scale. The civilized nations have hesitated to interfere effectively with the annual pilgrimages, and after the pilgrims started into the interior they were left entirely to their own devices, which of course have never dealt with anything so irreligious as sanitation. A railroad in such a locality must mean some measure of reform."

The Cuban Census.—The census which has recently been taken under the War Department in anticipation of the approaching elections is now available. From it we learn that the total population of Cuba is 1,572,797; among these there are 815,205 males and 757,592 females; there are 447,372 white males, 462,926 white females of native birth; the foreign whites number 115,760 males and 26,452 females; there are 111,892 male negroes and 122,740 female negroes; the mixed races number 125,500 males and 145,305 females; there are 14,694 male and 163 female Chinese. Of the total population of the Island, 1,108,709 persons are set down as single, 246,351 as married, while 131,787 live together by mutual consent. According to citizenship, over 20,000 are Spanish and more than 1,000,000 are native Cubans. It appears that males are in excess in the total population, except in San Diego, although the female whites outnumber the male whites, except in Pinar del Rio. Only 15.7 of the adults are married. Nearly nine-tenths of the inhabitants were born in Cuba. The officials are gratified to find that the native Cubans constitute so large a proportion of the population, that the

whites greatly outnumber the blacks, and that a large proportion of the native population can read and write.

Artificial Fertilization of Eggs.—Prof. Loeb of the University of Chicago, who attracted considerable attention last summer by his experiments in the artificial fertilization of the eggs of sea-urchins and the production of larvæ after an immersion of two hours in a solution of chloride of magnesium and sea water, has conducted a series of additional experiments during the past winter which corroborate the results of the original investigation. In the later experiments the sea water was sterilized, and the most elaborate precautions adopted in cleaning hands, instruments, and specimens before removing the eggs. If a male animal was encountered in dissection, it was removed, and the instruments were not employed again until they had been thoroughly sterilized. The five ovaries of the female were on removal placed in fresh water, and then put into the sea water, one part of the eggs being placed in sterilized sea water as a control experiment, while the remainder were put in the mixture of water and the magnesium chloride solution. The eggs were left in this mixture for an hour, after which they were placed in sterilized sea water, as many as 25 per cent. developing into blastulæ, and swimming about the next day. The other part of the eggs, however, did not even segment, and the most careful search failed to reveal such a change on the part of any. It was found necessary to use the solution in equal parts and leave the eggs for from one to two hours, in order to secure the segmentation. Prof. Loeb considers that the spermatozoa are entirely eliminated in these experiments, and that his results are accomplished entirely by artificial parthenogenesis.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

TWENTY-NINTH CONGRESS OF THE GERMAN SOCIETY OF SURGERY—TREATMENT OF INOPERABLE MALIGNANT TUMORS—CARCINOMA OF THE RECTUM—IMPROVEMENT IN THE TECHNIC OF RESECTION AND AMPUTATION OF THE RECTUM—PHYSIOLOGIC CAUSE OF CHILDBIRTH.

THE twenty-ninth Congress of the German Surgical Society was held in Berlin April 18th to 21st. The president, v. BERGMANN, in his address of welcome, called attention to the development of the treatment of malignant tumors which the century just closed has witnessed. The first day's session was given up to a discussion of malignant growths.

CZERNY spoke of the treatment of inoperable tumors. According to the best statistics 75 per cent. of all surgical carcinomata are inoperable, and according to Dührssen a tenth of the patients operated on for cancer of the uterus are cured. This is a sad outlook, and Czerny said that after

much thought upon the subject he had come to the conclusion that it is better to allow a patient with certainly or probably inoperable cancer to die in the expectation of getting well, than it is to subject him to an operation which is sure to be followed in a short time by a recurrence and consequent loss of all hope. Confidence in the doctor is of the greatest importance to such a patient. When he loses it, he is apt to seek a quack. In the treatment of carcinoma three things are especially to be avoided, hemorrhage, gangrene and pain. Many times the ligation of an afferent artery may be of service, e. g., in carcinoma of the tongue. Curetting and cauterization by heat may do good service; or scraping and chemical cauterization, preferably by means of gauze wet with a 20-50 per cent. solution of zinc chloride and used to tampon the cavity may be followed by healing. For surgical cancers an eating paste may be employed. The speaker mentioned an instance in which a carcinoma of the rectum, held to be inoperable, had become movable after the application of a chloride of zinc paste, so that it could be extirpated. Numerous cases were cited in which treatment of curetting, excision and the application of gauze wet with a 30 per cent. solution of zinc chloride had succeeded in effecting a cure of cancerous tumors pronounced to be inoperable by good surgeons. Medicine should also be given internally to satisfy the patient if for no other reason. A rational treatment of cancer can scarcely be expected before some definite knowledge of its nature is obtained. The erection of special hospitals for the treatment of cancer patients, as has already been carried out in New York and London, was advocated.

KRÖNLEIN said that the German plan of treating cancer of the rectum has found little acceptance outside of Germany for three reasons, *vis.*, the bad final results; the high mortality of the operation, and the bad functional results in so-called cured cases. From the statistics of eleven clinics he collected 881 cases of cancer of the rectum operated on in the past two decades. One-fifth of these patients died from the operation, one-half of the deaths being due to sepsis. Taking three years as a minimum time limit of freedom from recurrence, Iversen found that one-seventh of all patients operated on were cured. There are, however, well-known instances in which recurrence has appeared at a later period than three years after operation. The indications for operation have been too widely extended. When neighboring organs are involved, such as the bladder or ureters, only harm is done by a radical operation. In the eyes of a patient the question of continence of feces is even more important than the mortality. A healthy anus should always be retained in whole or in part, even although only a narrow circle of mucous membrane remains to connect it with the upper bowel. Krönlein has never made a sacral artificial anus, but has always united the cut ends of the bowel and has obtained thereby, in

39 cases; complete continence in 30 per cent., relative continence in 60 per cent., and absolute incontinence in 10 per cent. In conclusion Krönlein said that extirpation is the sovereign method in the operative treatment of cancer of the rectum; that recovery may be expected in four-fifths of the cases; that a radical cure may be expected in one-seventh of the cases; that it is most important to preserve the lowest part of the rectum in the interests of continence; that the results of total resection of the rectum with the anus are inferior; that the choice of the method of operation depends on the particular case, but that plastic methods are growing in favor.

REHN spoke of improvements in the technic of resection and amputation of the rectum. Since it is difficult to improve early diagnosis of this disease, which often gives no symptoms until it is well advanced, it is especially important that the technic of operation should be most perfect. The sacral method gives a good exposure and is relatively easy to follow; but it is dangerous, it leaves a wound which is not easy to treat, while the preservation of the sphincter ani is often of no value. On account of the disposition of the blood and lymph-vessels—the latter of which are placed entirely on the sides of the rectum—the sacral route is not to be advised. The best method is one which permits a high dissection and easy control of the hemorrhage at the same time that it preserves the fascia and muscular structure of the rectum and avoids infection. Carcinomata which have grown beyond the fascial layer are inoperable. In men the perineal method is far superior to the popular sacral one. If there are no adhesions, dissection is carried up as high as possible through the anterior incision. This wound is then tamponed and the dissection completed posteriorly. A considerable portion of healthy gut above the tumor should be resected with the latter, and the upper cut end of the bowel should be brought down and sutured in position. The subsequent treatment is far simpler than by the sacral method, and the discharge of secretions from the wound is better carried out. Rehn once resected in this manner eight inches of bowel and obtained a satisfactory result. In women the operation is still easier of performance. A simple incision through the vagina exposes well the field of operation. Rehn has operated thirteen times with only one fatality, and in this case there was no retention of secretion in the wound. Movable tumors are easily handled from below. If the lymph-glands are affected it is necessary to open the abdomen. Experience with this combined operation is still limited. The perineal method preserves to the greatest possible extent the normal relations of the parts. An artificial anus will rarely be required—only in an extreme case as a temporary measure. A valid objection to the sacral method is the loss of sphincteric action. Gangrene may follow amputation of the gut high up, because of lack of nutrition due to too great ten-

sion when the gut is brought down and sutured.

At the Imperio-Royal Society of Physicians in Vienna, April 6th, J. THENEN explained the onset of labor in childbirth in the following manner: The fetal circulation is complete in itself. The placenta receives all of its nourishment from it, and that, too, only after the blood has passed through the embryo. The greater the embryo becomes, the less nutritious is the blood which leaves it. Accordingly, the growth of the placenta ceases after the embryo has reached a certain size (thirty-sixth week of pregnancy), and from that time on the degeneration in its structure begins, evidences of which are visible in every placenta at birth. The placental labules begin to loosen their hold on the uterus. The specific influence which the living impregnated ovum has exercised on the female organism, and especially on the uterus, and by reason of which the uterus and ovum have lived as one organ, disappears, and the uterus resumes its normal functions and forces out the foreign body in its cavity. Thus there is no new irritation introduced. The cause of the birth is not to be looked for in uterine changes, or changes in the membranes, hemorrhages, fever, etc., but in the cessation of the influences which pregnancy exerted upon the uterus and which for a time held in abeyance the normal uterine functions. This theory explains not only the origin of labor but the typical duration of pregnancy.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

Fifteenth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from page 721.)

THIRD DAY—MAY 3D.

Adult Filaria Specimens.—Dr. W. T. Councilman of Boston presented specimens of adult filaria from a patient who lived for twelve years in the Barbadoes. Chyluria had not been noticed and anemia was not present. An abscess developed in one of the testicles from which came a yellowish discharge. In the discharge filariae were found. The testicle was removed and on section coiled masses of worms could be easily picked out. A characteristic group was shown consisting of six individuals, four females and two males. When the testicle was placed in warm salt solution for some time, some of the living worms crawled out to the surface and could be picked off. Careful studies of the parasites were made and sketches of various anatomical features drawn. Very striking features were the head and the relations between the uterus and the digestive tract. The mouth consists of a dimple shaped not unlike a maltese cross. The uterus and the intestine lie in a coil each wrapped around the other.

The blood of a brother of the patient when examined during the day showed nothing abnormal. Examined during the night it showed numerous active filariae. The brother also lived for some years in Barbadoes, but has absolutely no symptoms nor inconvenience from the presence of the worm and says he has enjoyed excellent health for years.

Rashes and Diphtheria Serum.—Dr. William H. Park of New York said that in fifteen per cent. of the cases in which diphtheria serum is used cutaneous rashes, urticaria, erythema and the like and occasionally some joint symptoms develop. These are not severe and never seem to leave any serious sequelae. It would be extremely helpful, however, to the cause of antitoxic treatment if these rashes could be done away with. There is, of course, a large personal element in the patient's reaction which causes the development of the cutaneous symptoms. This personal idiosyncrasy is extremely capricious and occurs in very differently constituted people. Nothing that the manufacturers of antitoxin have so far done has succeeded in modifying the tendency to the production of rashes. Filtration, as anyone who has experience in the matter knows, has absolutely no effect. A fine filter requires a great deal of care in its use and yet seems not to do the least good in removing the source of the cutaneous symptoms. Spronk suggested that the serum should be heated to 58°C for twenty minutes. This method of treating serum was tried in New York, but seems to produce no effect. Twenty cases were treated with serum that had been heated and twenty cases with unheated serum from the same animal. No difference in the number of rashes that occurred could be noticed.

Improvement of Serum.—The only successful method for the improvement of the quality of the serum so far found is to select the animals and the bleedings in order to eliminate undesirable samples of serum. It has often been noted that the serum of certain horses is much more liable to produce rashes than is that of others. After trial such horses are now no longer used. It has also been noted that the blood taken at certain times contains more irritant properties than at others. There is nothing in the appearance of the serum, or any quality that can be determined by chemical tests which will show that the serum is in a particular case likely to be irritant. This can only be determined by actual trial. Specimens of each bleeding are now given to inspectors who use the serum on cases reported by the Department of Charities to the Board of Health for treatment. The number of rashes found under the use of any particular serum is noted and where the percentage is high that serum is not put on the market for general use. Under this system of inspection a serum has been obtained with which sixty-five injections were given at a hospital and but two rashes resulted. As the percentage of cutaneous symptoms from some sera runs as high as thirty per cent., it can

be seen that this is a very decided improvement.

Globulin in Antitoxin.—It has long been known that in the globulin that can be precipitated from antitoxic serum most of the antitoxic properties of the serum are contained. Either the globulin itself holds the antitoxin or it is mechanically precipitated when the globulin is thrown down. Observations in New York would seem to show that the precipitation of the antitoxin at the same time with the globulin is not merely a mechanical process. The globulin in serum and its antitoxic properties bear a certain relation to each other. Recently in an untreated horse in the laboratory of the New York Board of Health the serum was found to contain three units of antitoxin, which is a remarkably high amount. The serum contained also three and two-tenths per cent. of globulin, which is considerably more than normal. At the end of several months of treatment and at a time when the blood contained twelve hundred units of antitoxin there had been an enormous increase in the globulin up to eight per cent. Later when the antitoxic properties were somewhat exhausted, the units of antitoxin value and the amount of globulin both dropped. Serum globulin has been obtained reasonably pure from diphtheria serum and then has been dissolved in water in the hope of thus eliminating the objectionable properties of antitoxin. It has been used in twenty-four cases in twenty-three of which recovery took place. This globulin antitoxin has, however, proved rather irritating. Slight abscesses formed at the point of inoculation in several cases. Despite the removal of the other albuminous substances contained in the serum, cutaneous symptoms sometimes occurred. The problem, then, of the production of a non-irritating serum is not yet solved, although a step in the right direction seems to have been taken.

Dr. McPhedran of Toronto said that the question of the occurrence of cutaneous rashes was largely a matter of personal idiosyncrasy. Recently in a family he had occasion to give immunizing injections of serum to a mother and child and the child's nurse. Only very small amounts of serum were employed. Neither the mother nor child developed any symptoms. In the nurse there occurred an urticaria with some fever and joint symptoms and general indisposition which lasted for ten days.

Dr. Meltzer of New York suggested that perhaps one serum which produced symptoms would protect against the development of any further symptoms from the same sort of serum.

Dr. William H. Park said that he has seen repeated rashes occur in certain cases where repetitions of the same serum were given. It is doubtful whether the repetition of the injection brought out the rashes after the first one, or whether they would have occurred off and on for some time as they do sometimes after a single injection of serum. This experience, however, would seem to hint that the serum is not protective. Dr. Park has seen in Boston the employ-

ment of large injections of antitoxin where the antitoxic strength was not high and where consequently much larger doses of serum than usual had to be employed. The cutaneous symptoms were neither more frequent nor more severe although the joint symptoms seemed to give more trouble.

Varieties of the Diphtheria Bacillus.—Dr. F. F. Westbrook of Minneapolis detailed some work on the varieties of the diphtheria bacillus which has been done by Drs. Wilson and McDaniel and himself for the Minnesota Board of Health. He said that the great variability of the diphtheria bacillus makes it important for us to have some definite classification. The old division into typical and atypical diphtheria bacilli is no longer of any use. Three great families may be admitted. In the first the material of the bacilli stains in granules. Usually these granules are at the poles while the staining of the intermediate body of the bacillus varies in intensity. Certain branched forms of the diphtheria bacilli seem to come under this group. The second group of bacilli consists of the barred forms. In these it looks as if cross-sections of the bacilli were removed. Sometimes the intermediate portions are distinctly stained, but are of a much lighter blue than the other parts. The size of the light areas of the bacilli are very different. This gives rise to a variety of types. The third group consists of the solid color forms, in which the whole bacillus takes the stain rather uniformly. Under this group come the diplobacilli although these were formerly classed as pseudobacilli. A specimen from any throat may contain a number of these groups, although often some one group either predominates or exists exclusively. The progress from one group to another may be noticed in the throats of patients, but this progress is not typical of the course of the disease, and tells nothing as to the prognosis of the case.

In the discussion Dr. Abbott said that the normal morphology of the diphtheria bacillus is not known. This makes it very difficult to interpret the variety of forms which are found. If we alter the environment on which the bacillus grows we get very different types. Simple acidification of the medium makes a great change in the appearance of the bacilli. The morphology of the diphtheria bacillus is much more complicated now than it was eight years ago when Loeffler's blood-serum was used as a culture medium. The coagulation of the medium makes a distinct difference in the appearance of the bacilli. The solid color group would seem to consist of involution forms. A pathological process has gone on in the microbes themselves, making them much more susceptible to the stain.

Diphtheria Bacillus in Healthy Throats.—There is no doubt now that genuine diphtheria bacilli may occur and exist for a good while in healthy throats. These bacilli are virulent, but the patient is not at the moment susceptible to infection. Often in these cases a mild injection of the throat exists, indicating that the super-

ficial layer of tissue is somewhat affected by the presence of the diphtheria bacilli. It is these very mild cases which are important to public health and which create such a difficult problem for health authorities to solve. Undoubtedly these cases serve to spread the disease. They have so few symptoms, however, in some cases none, that it is a hardship to prevent them from going about their business. This prevention, however, is for the public good and should be insisted on.

Dr. Park said that he did not think that the members of the third group, the solid color forms of the diphtheria bacilli ever occur in original cultures. The diplococcus forms are not considered by the New York Board of Health to be true diphtheria. Where bacilli resembling diphtheria bacilli occur in healthy throats, the question always arises, are they virulent? The only way to decide is to inoculate guinea-pigs and wait four days to see whether infection takes place. Where diphtheria bacilli occur in the throat it is extremely difficult to say whether the person shall be allowed to go about freely or not. Sometimes it constitutes a most discomforting problem. There seems to be no doubt that virulent bacilli can exist in healthy throats without producing any effect. Patients are not susceptible to a given moment and their tissues are capable of resistance. The present practice, at present so common, of immunizing children for measles is founded on this fact. Healthy children resist the invasion of the diphtheria bacilli; when weakened by measles, however, they succumb to it. As in institutions the diphtheria bacilli seem to exist in most children's throats, there arises the necessity for immunizing against diphtheria when they are weakened by a disease that affects the throat tissues.

Dr. Meltzer said that the appearance in certain groups of the diphtheria bacilli, especially in the barred forms, resemble those that are caused in bacteria by plasmolysis. This is a phenomenon due to variations of osmotic pressure, the liquids in which the cellular elements are contained being of very different specific gravity to those existing within the cell-wall of the bacteria.

Dr. Westbrook, in closing the discussion, said that the virulence of diphtheria bacilli for guinea-pigs by no means necessarily implies their virulence for human beings. It is true this is the only way in which to decide as to virulence, but it is fallacious.

Addison's Disease Treated with Suprarenal Extract.—Dr. W. W. Johnston of Washington presented a patient suffering from Addison's disease. The young man, who was twenty years of age, presented himself in the fall of 1897 suffering from extreme weakness and with beginning bronzing of the skin. He was ill for some time and grew worse as the colder weather approached. He was in bed for some months. In the spring-time he improved and enjoyed reasonably good health during the summer. In the fall of 1898 he again became weak, pigmentation in-

creased, and he was troubled with vomiting and diarrhea. He improved somewhat and in October, 1899 he had another aggravation of his malady. Each relapse was worse than the preceding one and made his general condition more serious. Under the rest treatment he improved rapidly and gained twenty pounds in weight. The administration of suprarenal extract seemed to be of benefit. Since then he has continuously gained in strength. His pigmentation has not decreased. His blood has four and one-half million red cells and is otherwise normal. He has some enlargement of the liver, but there is no glycosuria. He has continually a subnormal temperature. The pigmentation occurs in mole-like spots, but there is also a general bronzing of the skin. His extremities especially are very dark.

Of the forty-three cases of Addison's disease in medical literature that have been treated with suprarenal extract, thirteen have improved. In this case it has not been necessary to increase the doses of suprarenal extract, but he has gone on improving on the original dose. His arterial tension increased very markedly at the beginning of the treatment and his heart acted better. This improvement has continued.

Venous Thrombosis in Cardiac Disease.—Dr. William H. Welch of Baltimore said that he has now seen four cases of this complication, three of them at the autopsy table. In the text-books peripheral venous thrombosis is not treated of as a complication of cardiac disease. His personal experience would seem to point to the fact, however, that a sufficient number of such cases occur to make the affection of importance clinically. Dr. Welch's first case was a negress, seventeen years of age, suffering from aortic and mitral insufficiency. She developed suddenly a swelling of the neck and a painful, hard edema of the left arm. The veins of the arm and neck could be felt as cords. The pulse became intermittent and the patient died. At the autopsy complete pericardial obliteration was found, while a large thrombus existed in the left innominate, the jugular, the subclavian and the axillary vein. The oldest part of the thrombus was somewhat greyish in color and occupied the bulb of the jugular vein. Cultures were made from various parts of the body and all of them were sterile except those made from the thrombus. Here the streptococcus was found in pure culture. The cause of the thrombosis was evidently this infectious agent.

The second case terminated in recovery. Mitral stenosis existed, but the compensation was not very much disturbed. The left ankle became swollen and tender and then the left side of the neck swelled. A temperature of 100° F. developed and the pulse-rate went up to 124. The swelling of the neck increased and the jugulars stood out as hard, sensitive cords. A week later the left arm became swollen and a condition of hard, tender edema developed. This was evidently due to genuine phlegmasia alba dolens and was not the soft edema of heart-disease. After

two months the collateral circulation was restored and the patient recovered. During the course of the case embolism of the popliteal artery took place, but gangrene did not set in and the collateral circulation was also restored here. In the third case edema of both arms developed, but the left arm was harder, larger, whiter, and more tender than the right. The left brachial, axillary and subclavian veins were thrombosed. In the fourth case the left femoral vein was thrombosed. This case was evidently, however, of a very different category to those in which thrombosis occurs in the arm and neck. In the literature there are twenty-seven cases of peripheral thrombosis in heart-disease. Twenty-three involve the head and neck and the arm, while only four occurred in the lower extremity. It is possible, of course, that thrombosis in the lower extremity might be overlooked because of edema from insufficient elimination of urine due to the heart-disease. It would seem, however, that other reasons besides this are at work. Seventeen of the twenty-seven patients were females. The affection is almost limited to mitral lesions, especially to stenosis of the mitral orifice, and this form of endocarditis is very common in women. The youngest patient was nine years of age and more than one-half the cases were under thirty years of age, so that it is distinctly an affection of early life. In twenty cases mitral disease existed; in one relative insufficiency of the mitral existed in connection with aortic disease. These cases are sometimes spoken of as rheumatic phlebitis, but there seems no reason for this name since no typical symptoms of rheumatism occur. There is a great predominance of the complication on the left side. In only two cases did it occur on the right side alone. It was bilateral more commonly. By far the majority of the cases were exclusively on the left side.

The first symptom is swelling or pain, at times one, at times the other. Very often the complication is missed entirely because the constitutional symptoms are masked by the bad condition of the heart and the symptoms it occasions. There is nearly always a slight rise of temperature. In a case that was studied very carefully by Dr. Helen Baldwin the buccal temperature was six degrees lower than the rectal temperature, which was slightly above normal. As a rule, death takes place because of the heart-disease rather than from the presence of the thrombus. The reason for the greater frequency of thrombus on the left side is that the left innominate is longer, is more oblique, and there is more obstruction by valves on this side of the venous circulation. Recklinghausen has called attention to the fact that a whirling motion in the blood favors thrombosis. A vertical movement occurs especially in the bulb of the internal jugular. Imperfect valves often exist in this vein and these add to the cross current. Besides there is often systolic reflex in these cases of mitral stenosis and insufficiency. Something more than these mechanical factors, however, is needed in order to precipi-

tate thrombosis. This added factor is an infectious agent.

In the discussion Dr. Kinnicutt of New York said that edema of the left arm and swelling of the neck and side of face with cord-like induration of the veins in these regions were the cardinal symptoms in a case which he saw some months ago. The patient was restored to health although the collateral circulation was not completely developed. Just before leaving New York he was again called to see the patient and found that thrombosis had occurred in the veins of the left lower extremity. Serious constitutional symptoms then developed and threatened a fatal termination.

Dr. Cary of Buffalo said that another important factor that causes the thrombosis to occur on the left side rather than on the right is the fact that the dilated heart presses upon the veins upon this side more than on the right and so adds another mechanical factor to those mentioned by Dr. Welch.

In closing the discussion Dr. Welch read from his paper a passage omitted in the previous reading in which he mentioned the fact that in cases of mitral stenosis the dilated left auricle presses upon the veins on this side and so adds to the liability to thrombosis. It also presses upon the artery, causing the left radial pulse to be less than that on the right, one form of the pulsus differens of the clinicians.

The New Tissue in Cirrhosis.—Dr. Simon Flexner of Philadelphia demonstrated specimens of cirrhosis of the liver treated by Weigert's stain for elastica and by the digestion method in order to determine what the new connective tissue in a cirrhotic liver is composed of. A student in Ziegler's laboratory recently announced that the new connective tissue in cirrhosis is mainly composed of elastica. This seems true if staining methods alone are depended on. By exposing the tissue to digestion by pancreatin all the elastica is removed. A white fibrous tissue with a reticulum is, however, left. The opposite method was also tried, *viz.*, that of removing the white fibrous tissue by caustic potash. A certain amount of success was attained. The digestion process showed that the new tissue in hypertrophic and atrophic cirrhosis are very differently composed. The cirrhotoses have been unfortunately named. In biliary cirrhosis, for instance, the connective tissue forms around the blood-vessels while from the name it would be expected to form around the biliary ducts.

Cystoma of the Pancreas.—Dr. Fitz of Boston reported a case of cystoma of the pancreas which had been diagnosed and removed by surgical operation. There are only seven cases in the literature in which the diagnosis has been made. This tumor differs somewhat from a retention cyst of the pancreas although it produces the same clinical symptoms. The structure of the tumor seems to suggest that it originates from a proliferation of the acini of the glands and a dilatation of the smaller ducts.

Dr. J. H. Musser's paper on "Subpectoral Abscess" was read by title, as was also Dr. D. D. Stewart's paper on "Stone in the Kidney and Conditions Simulating It."

Aneurismal Rupture into Superior Vena Cava.

—Dr. Alfred Stengel of Philadelphia reported a case of aneurism of the aorta which ruptured into the superior vena cava, the condition being recognized during life. The patient was a workman, thirty years of age, who felt something give way in his chest, after which an intense sense of oppression developed. Great swelling of the neck and upper part of the body down as far as the waist line ensued. The lower part of the body was perfectly normal. Great cyanosis also developed. Death took place only after twenty-four days. It is surprising how long the duration of such cases is. One patient was alive seven months after the condition developed. In another case recovery seems to have taken place. The great lividity would tempt an attending medical man to do venesection. It is probable, however, that venesection would do more harm than good. It prevents the equalization of pressure by the venous blood which would cause clotting in the aneurism itself and so lead to the only hope of relief from the condition.

Cardiac Dilatation.—Dr. Beverley Robinson of New York reported some minor forms of cardiac dilatation, especially those which occur in chlorotic girls just past puberty. For these cardiac stimulants are necessary, but general roborant treatment is more needed and produces more lasting effects. Very often there is excessive menstruation, which should be controlled by ergot or hot douches. Not infrequently in these cases there is some albumin in the urine and slight febrile temperature develops. In one case a patient was told that nephritis existed and she was advised to seek another and more equable climate. The fact of the matter is that the heart in these cases is not able to keep the blood-tension in the kidney high enough to cause the excretion of normal urine. The indication is for treatment of the heart and not of the kidneys.

Graves' Disease Without Exophthalmic Goiter.

—Dr. W. H. Thomson of New York reported a number of cases of Graves' disease in which tremor, some constipation or diarrhea, and tachycardia existed, yet without goiter or prominent eyeballs. The speaker discussed the symptoms of sixty-six cases seen in private and consultant practice. Of these thirty-four had both the enlarged thyroid and exophthalmos. Thirty-two of them had neither the exophthalmos nor the goiter. The symptoms in these two classes of cases are so similar that Dr. Thomson considers them to be practically a demonstration that the thyroid gland and its affections are not of the essence of Graves' disease at all. He suggested that the pathology of the disease will have to be looked for elsewhere.

The paper of Dr. D. D. Stewart of Philadelphia, entitled "A Case of Acute Graves' Disease without Exophthalmos or Goiter," was not read.

In the discussion Dr. McPhedran of Toronto said that he has seen cases of Graves' disease in which there was no projection of the eyes beyond the normal, but in which, despite the presence of considerable emaciation, the eyes had lost none of their normal prominence, that is, while there was not absolute, there was relative, projection of the eyeballs.

Dr. Thomson said that an enlargement of the palpebral fissure without striking projection of the eyes was not an unusual symptom in Graves' disease, and it sometimes is a substitute for the exophthalmos.

Perichondritis of the Larynx in Typhoid.—Dr. M. H. Fussell of Philadelphia said that this complication is very rare, occurring only in a little more than one per cent. of the cases. He has seen two cases, one of which proved fatal. The disease began on the fifth day after the typhoid temperature had become normal. The man ate a piece of apple and on swallowing it had a sensation of suffocation. Symptoms of stenosis developed shortly afterward and swelling and tenderness of the larynx externally were noted. The breathing became so labored that Dr. Fussell advised tracheotomy, but stupid relatives would not be persuaded of its advisability.

The second case was a typhoid convalescent in the thirteenth day after the temperature had become normal, when a chill developed. This seemed to be due to an abscess in the arm, because as soon as the abscess was emptied the fever disappeared. At this time it was noted that the breathing was stridulous when the patient was excited and was somewhat noisy during sleep. Symptoms of laryngeal stenosis developed, tracheotomy was done and a tube was inserted. The abscess opened two days after the insertion of the tube and it was evident that the pus collection never would have emptied itself with safety to the patient if the tube had not been inserted. Afterward the necrotic arytenoid cartilages were coughed up. Complete ankylosis of the crico-arytenoid joints developed and also of the vocal cords. The tube remained in place for five months and then was removed for a while, but had to be reinserted. After having practised occlusion of the tube for some hours at a time, it was removed again. It was always disconcerting to the patient to have it out during the night. But at the end of six months this also was accomplished. There are only twelve cases in the literature in which it has been possible to dispense with the tube. Cases of perichondritis occur oftener than is suspected, but as the patients are very weak, the symptoms are missed and sudden stenosis occurs with fatal termination.

The Appendix in Typhoid.—Dr. Hobart Amory Hare said that it not infrequently happens that during typhoid appendicitis develops as a complication. As typhoid with appendicular symptoms is not uncommon, there will be some hesitation in operating for the appendicitis because the existence of typhoid makes the prognosis after

operation so much worse. The differential symptom is the presence of leucocytosis in appendicitis. This may be slight, but it is sure to occur if there is a purulent focus. Notwithstanding the fact that typhoid makes convalescence from an operation for appendicitis less assured, operation should not be neglected where it seems necessary. If the abdomen is scaphoid and the muscles are board-like and rigid, if there is tenderness in the right iliac fossa and pain over the appendix, then an operation should be performed even although typhoid be present. The blood examination will make the decision less difficult. Leucocytosis as is well known does not occur in simple typhoid.

Appendical Symptoms in Typhoid.—A number of cases of typhoid occur in which there is pain and tenderness over the region of the appendix. In one case recently under Dr. Hare's care, McBurney's point was especially tender. There was the board-like tension of the abdominal walls. A prominent surgeon suggested operation. This was about to be performed when the appearance of the tongue, which was very characteristically typhoidal, prompted delay. Salines were given and an ice-bag applied. The symptoms remitted some the next day and at the end of a week all the appendical manifestations were gone and typhoid frankly declared itself.

Observations on Appendicitis.—Dr. Ira Van Gieson of New York said that the predisposing factors of appendicitis are important. The appendix is prepared for acute attacks by a chronic obliterative process due to a new growth of connective tissue. This new growth of connective tissue is really due to disturbance of the circulation of the appendix. During the development of the appendix the fact that the vessels are pressed upon by the ileocolic falx and also the fact that the meso-appendix is so short as to make the vessels describe a curved course render them liable to obliterative endarteritis. The exciting cause of appendicitis is always bacteria. The principal bacterium concerned is the bacillus coli communis, although the streptococcus pyogenes and the pneumococcus are also of etiological significance. The bacteria are, however, only able to accomplish their invasion of appendical tissues when the appendix is lowered in resistive vitality by affections of its blood-vessels which disturb its circulation. In more than one-half the cases the appendix has undergone more or less obliteration before the middle of life has come. Appendicitis is an important evolutionary factor by which the survival of the fittest is accomplished. As such it performs a great purpose in the scheme of evolution.

The paper of Dr. Andrew H. Smith of New York, entitled "Would it not be a Gain to Both Pathology and Practice if a Direct Interaction Between the Morbific Agent (Noxa) and the Reparative Efforts Were Recognized and the Conception of an Intermediate, So-called Inflammatory Process Abandoned?" was read by title.

Human Temperature in Disease.—Dr. Norman

Bridge of Los Angeles, Cal., said that treatment is less difficult than diagnosis. The cause of fever is still often enough a mystery. It is thought to be due to the toxins which are usually produced by microbes, acting upon the nervous mechanism which regulates heat production and heat dissipation. Besides these septic products there are albuminous products from certain organs that seem to produce the same effect. Inflamed follicles in the tonsils may cause fever and yet resolve without the production of pus. We do not as yet know how much fever the tubercle bacillus is capable of producing. It is probable that most of the fever which occurs during the course of tuberculosis is due to secondary infection, or to the breaking down and absorption of necrotic tissue. The sudden fevers which occur in childhood are usually thought to be due to ptomaines from the digestive tract, but this is pure hypothesis as yet unproven. It is not known for certain whether nervous perturbation ever may cause fever of itself without any chemical influences within the body. It is known, however, that people who are feverish are made worse by emotion, but normal people seem not to be so affected. Exercise certainly does increase fever as also do emotions in tuberculosis, so that both of these are avoided as far as possible in sanatoria. The existence of purely hysterical fever has been doubted, but it probably exists. Formerly the great scapegoat in diagnosis wherever fever existed was malaria. Now it has become grip. There is a great temptation to treat fever, but it should be resisted, unless other symptoms besides the fever develop. If nervous symptoms develop, they can be best treated by baths. Fever may last for months, as occurs so often in tuberculous cases, yet without producing any serious constitutional results. Aconite has been very much used during the last half century to reduce fever. It never does it except by injuring the patient. It may make the patient less nervous by quieting the heart, but more than this it does not accomplish. Certain things for the treatment of fever may be done. Purulent products may be removed, so as to prevent further absorption. Inflammation may be allayed, and catharsis will eliminate from the intestinal tract substances the retention of which might produce fever.

Infantile Paralytic Mummy.—Dr. J. K. Mitchell of Philadelphia described a mummy found by the Flinders Petrie expedition in a village south of Cairo, on the edge of the plain. The date of the mummy is 3700 B. C. It was found enclosed in a coffin made of a sycamore tree, careful estimation of the rings of which showed it to have been at least 300 years old. One of the legs of the mummy is considerably shorter than the other. At first it was suspected that a thigh was broken. There is no evidence of this. A staff was found in the coffin with the mummy. Notwithstanding this there is no evidence of any tilting of the pelvis or any curve in the spine. It seems clear, then, that some prosthetic apparatus was used upon the lame leg so

as to compensate for its shortness. This was probably a high-soled shoe of some kind. The femur of the lame leg is shorter and smaller in diameter than the femur on the other side. This seems to point to an atrophy of the part. This atrophy was probably due to an anterior poliomyelitis, occurring at a very early age, or perhaps even in intra-uterine life. This is the earliest case of anterior poliomyelitis on record. The earliest case of infantile paralysis known before this was that of Jonathan's son Mephiosbeth who, Professor Osler thinks, was affected by the disease.

A Modified Sphygmograph.—This was presented by Dr. Robert T. Edes of Jamaica Plains. Dr. Edes thinks the idea that the sphygmograph can give any information as to the kind of heart lesion that exists has been given up. It is possible, however, to learn something from it as to the pulse tension. What is needed, then, is an especially accurate mechanism for the magnification and correct reproduction of the arterial tension. This, Dr. Edes thinks, he has accomplished.

The paper of Dr. Morton Prince of Boston on "The Circular Fibers of the Heart (Mitral) Sphincter as a Factor in Functional Disturbances of the Heart with Mitral Insufficiency," was read by title.

AMERICAN PEDIATRIC SOCIETY.

Twelfth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from page 756.)

THIRD DAY—MAY 3D.

A Case of Rachischisis.—Dr. T. M. Rotch of Boston presented a paper on the above topic, and said that it is one of the principle forms of congenital defects of the spine. It is characterized by a deficiency, either complete or partial, of the vertebral arches. The cord is rudimentary and is split open so that the endothelial lining of the central canal is exposed. The condition is of interest pathologically rather than clinically. The case in question came under his notice at the Infants' Hospital. A girl, three years old, was admitted to the Hospital on February 14, 1900, in the service of Dr. John Dane. The history of the case was that the delivery had been with forceps, but the infant was viable and it had taken no food since birth. A physical examination showed the head to be of normal size. The anterior fontanelle was widely open. There was a caput succedaneum on both sides. The face was flattened, chin retracted and held in forced position with the occiput on the principal dorsal spine. The skull was apparently well over. The foramen magnum was as large as a silver dollar. The section of the brain passed nearly through the median portion of the brain which was poorly hardened. Neither the cerebellum nor the pons was to be found in the cranial cavity.

Fatal Post-Optic Cerebral Abscess, with Amnesic Aphasia.—Dr. J. Henry Fruitnight of New York, in presenting his paper, stated that this case illustrates the extent and gravity of a pathologic lesion. The patient, Fannie W., twelve years of age, of New York City, came under his care December 10, 1899. In June, 1898, she had suffered severely from an acute otalgia of the left ear. This happened in the country. She consulted a physician who diagnosed otitis with an abscess. He did a paracentesis of the drum of the left ear, evacuating a large amount of pus. The mother was instructed how to proceed in the treatment, but neglected to continue it. When the speaker first saw the patient her temperature was about 100° F., pulse 98, and she complained of frontal headache. There was some prostration, and she had occasional chilly sensations and nausea. There was a scanty discharge from the left ear. The clinical diagnosis was a deep mastoid caries, possibly cerebral abscess and beginning meningitis. December 17th she was seized with violent convulsions which continued six hours. They were finally controlled by the use of a rectal injection of chloral hydrate, inhalations of chloroform and hypodermic injections of morphine.

Dr. Herman Knapp of New York, who had seen this patient and made a clinical observation, said that this case was remarkable and instructive. Before the operation the location of the abscess, if it was assumed from the symptoms, would be higher up than where it was found. The operation revealed a condition which showed conclusively the presence of an abscess, the site of the disease being the bones of the ear. There was some congestion, but not so much as to indicate the condition.

Dr. Henry D. Chapin of New York called attention to the mastoid trouble in children in which the brain is not affected. It is well to note that where the mastoid disease does not affect the brain but burrows in front, it is best to look in that region. He reported the case of a boy, five years of age, in which there was tenderness back of both ears but no swelling. The temperature fell from 103° to 101.5° F. and remained there for a day or two.

Dr. Fruitnight, in closing the discussion, referred to the absence of low pulse and high temperature.

Measurements of Chicago School Children.—Dr. W. S. Christopher of Chicago presented what was probably the most interesting and instructive paper of the session. It was fully illustrated by charts and by the instruments used in taking the measurements of the school children. The observations represented measurements of ordinary anthropometry measurements and in addition the results or work of the ergograph. The ergographic work was so done as to express in cm. kilograms in place of pounds, the amount of energy exerted by each pupil tested. The test consisted in lifting at each, alternate second with the middle finger of the right hand a weight

equal to 7 per cent. of the gross weight of the individual and permitting them, at the next second, to return. The test was continued in each case for ninety seconds, during which time this weight was lifted forty-five times, the time being guided by a metronome beating seconds. Before the end of the ninety seconds was reached in each case the child would show signs of fatigue which was exhibited in an ergogram. On comparing the ergogram work of children of different ages, it was found that the work done by girls was less than that done by boys of the same age. Up to fourteen years of age the endurance of the girls was found to be of greater extent and showed a greater percentage than that of the boys. At the age of fourteen, the work of the girls practically reached its maximum, and from there on up to twenty years of age, the limit of the examination did not increase, whereas the boys continued to increase continuously up to twenty, and not only increased but seemed to increase at a greater rate than it had previously. The amount of energy displayed by the girls of twenty was about half that exhibited by boys of a similar age. There was a marked differentiation in the sexes at this age. The endurance of a child in the lower grades was slight, but as the upper grades were reached it increased continuously until the endurance of the boy pupils in the higher grades amounted to about six times that of the poorest pupils.

Dr. Christopher exhibited an ergogram of a sprinter. This school-boy racer said he could run three hundred yards, but could not go three hundred and thirty yards. He exhibited a high degree of strength for a short time, when he suddenly broke to complete exhaustion in a less time than a normal child would break. Another ergogram of considerable interest was the one of a choreic child, which showed irregular elevations, irregular times, irregular spacings and, in general, was a perfect picture of the movements of chorea as are observed by the eye. This child presented an unusual amount of energy, a its sum total, and continued the work on the ergogram for double the time most children could maintain it.

The paper presented a confirmation of the work done by Dr. W. Thompson Porter in the examination of school children in St. Louis in 1892. From his observations in St. Louis, Dr. Porter concluded that physical superiority was associated in school children in general with intellectual precocity, and that physical inferiority was associated with mental inferiority.

There were ten charts shown illustrating the physical peculiarities of the twelve-year-old children as they occurred in the different grades of the Chicago schools. Five hundred and three children were examined and many of them were found scattered through the grades from the second to the eighth year inclusive. The averages of the physical measurements of the pupils in each of these grades were taken and a curve drawn representing the averages in each

grade. It was shown that the weight of a child in the second grade was less than that of a child in the third grade. In general, the highest physical measurements of all kinds noted were found in the twelve-year-old child in a number of grades, while the twelve-year-old child in a lower grade presented a less average in each of the physical measurements noted. In the intermediate grades, these averages were distributed in a fairly even way.

The facts presented above go to show that physical superiority and intellectual superiority, as a rule, go together, and physical inferiority and mental inferiority are likewise, as a rule, found associated.

Dr. McDonald, of the Bureau of Education of Washington, stated that the paper was one of the most important investigations on children that has been presented. The amount of work required on such a paper as that of Dr. Christopher is only known to those who undertake original research of this nature. He has had some experience here in Washington measuring twenty thousand children and appreciated the great work accomplished by Dr. Christopher. It is curious that people of a great deal of intelligence will ask to what use this investigation may be put. It is amusing to note that, while expeditions can be fitted out at great expense to go to the North Pole, objections are at once raised if a few facts are obtained about children which are not immediately utile. The results are not always as practical as the people would want them to be and this creates an additional difficulty. He has noticed that there is a divergence as to boys and girls about the age of fourteen. The current theory is that girls are brighter and mature more early than do boys, but it would now appear that at fourteen years of age boys take the advance of girls; that is, boys mature earlier. It is also a curious fact that children born in summer are healthier, stronger and brighter than those born during the winter. He thinks it would be very interesting to work out the relation between the weight capacity and vital capacity. On this head there appears to be absolutely no facts, and this is true also in relation to strength and pain. It has been his experience that those who can grasp the most are the least sensitive to pain.

Dr. Yale said that application along these lines seems to be very interesting. Referring to the first four charts, he said that while a boy is growing tall, he is not growing healthy. He ails a little on his way and presently catches up. He will be beginning to grow in weight before he grows tough.

Dr. Fruitnight suggested that the medical profession should study more strenuously along this line than has been the case in the past. He was very much impressed in Dr. Christopher's paper. According to him, the rule of school-life seems to be reversed and that the child is kept at his desk when he should be in the play-ground, reaping the benefit of the sunshine, and an effort should be made to secure some reform in the ad-

ministration of school matters. It would be beneficial to the children if they could enjoy the open air, say, between ten or eleven o'clock to half-past two. In other words, the school noon-hour should be prolonged.

Dr. Cotton thought too much importance can not be attached to this kind of work. The profession is now in the area of a careful study of the developmental period. He is particularly gratified and proud that a member of the American Pediatric Society should have given the time and shown the ability in this line of study. He believes that it will stimulate the men, especially those who are more or less associated with the developmental period of infancy and childhood, to add their mite from time to time to the accumulating mass of data. He is very much impressed by Dr. McDonald's remarks in regard to the want of appreciation on the part of the public as to the investigations along this line, whereas the public is keenly alert to the apparent advantage of investigation in commercial life, for instance. He asked for some light in regard to the period of greatest fatigue.

Dr. Christopher said that there is a period of diminished endurance from the fourth to the eighth grade, and the ergogram runs level instead of running up as it does in the other charts.

Dr. Churchill asked whether those children who show the greatest endurance on the ergogram stand highest in their class.

Dr. Christopher replied that individual cases had not been taken. The sexes were not separated because the combined number was too small at that age, but he would answer the question in the affirmative.

Dr. Chapin said he had reached some peculiar conclusions in studying the measurements of the thousand children measured in the New York Juvenile Asylum. First, the scheme of the measurements was made, then he had a report from the teachers as to the intellectuality of those children. It was shown by careful examination that some of the boys who were among the brightest had developed mental vices. In answer to a query, he said that the children were not normal.

In expressing his appreciation of Dr. Christopher's work, Dr. Ratchford said that he thought it had been probably carried on under better conditions than almost any other piece of work with which he was familiar. The results were most conclusive and reliable. He does not think the profession is in a position to interpret exactly what this ergogram means. His understanding is that it indicates muscle-fatigue as well as nerve-fatigue. It is difficult to explain why those who are weak and nervous should have been able to lift the required weight so many times. He thinks that it is of great value if it can be read to show nervous exhaustion in a child. The habit has been to attribute a great many nervous diseases to a strain from work. Referring to the chart on school life and sight, he thinks that the child from whom that chart was made was in a well-lighted and well-ventilated school, and that

the pupils were under the best hygienic condition. He thinks that the questions of school-life and hygiene have something to do with what has been written on the subject of school-life on sight, and it is probable that the sight may be impaired along with other things. There seems to be an actual basis toward precocity, and that in children of a common age the child having the best physical development is further advanced in school-life than weaker children; that is, he is capable of doing sustained work in the school.

In closing, Dr. Christopher said that an attempt had not been made to solve all problems. In the experiments at the Alcott School, the average weight of a six-, eight- or nine-year-old child was not found to be greater or less after vacation, and there was so little information on this point, as to the liability of a child to increase in weight during vacation, that the matter was not reported. Some children improved, some did not improve, and some actually lost in weight. Some worked during vacation, some went out in the country, and some went into stores, and the statistics were thrown out as unsatisfactory. He referred to the fact that there is little discrimination on the part of teachers in reporting the condition of their pupils. The teacher's marking was thrown out as unreliable and it was necessary to go back to the line that the child's standing in grade indicated. The great standing in each number is certainly full of meaning in regard to intellectual capacity, because the grading is upon intellectual standing. There is more meaning in the grade standing than in the teacher's marking. Referring to the question of color-blindness among pupils, this defect has been found in rooms where the teacher asserted with great positiveness that no color-blindness existed at all, that the pupils used their colors perfectly in drawing and painting, and yet an actual test showed some of them to be distinctly color-blind in whole or in part.

Epidemic Paralysis in Children.—Dr. Henry D. Chapin of New York presented a paper in which he stated that in the case of a number of children who had paralysis it was due to poliomyelitis. It is probably due, he thinks, to some infectious agent. He dwelt quite exhaustively on the epidemic of paralysis which had occurred in Poughkeepsie, N. Y.

Atresia of the Larynx Due to Faulty Intubation.—Dr. Northrup, in his paper on this subject, stated that the fault in this case was due to the operator. A subsequent operation was performed but was not able to relieve the obstruction. The child died in November. Dr. Northrup exhibited the specimen and explained the case in detail. He stated that the child pulled out the obstruction several times, twice with a string, and in that way acquired a relaceration up to the number of five in all, until at last it could not be lifted. The larynx had been wounded at that time by some sudden accident and dyspnea set in.

Dr. Cotton, in discussion, asked whether the malformation of the larynx was natural or due to inflammation or disease.

In answer to Dr. Cotton's question Dr. Northrup said that it was the result of traumatism. He did not think it was possible for everybody to do intubation without detriment to the patient.

Head-Nodding and Head-Rotation in Rachitic Infants.—Dr. J. Milton Miller of Philadelphia, in presenting his paper, stated that the particularly interesting and peculiar nervous affection in young children, variously known as spasms nutans, gyrospasm, rotary-head spasm, head-nodding and head-jerking, and which is commonly associated with nystagmus, was his apology for presenting the three cases which had come under his notice during the past ten years. He regretted not having made a more thorough study of the eye-symptoms, admitting that he had not been as alive to the close and important relation which the symptoms bear to the etiology of the affection. The first case was that of a five-months-old colored boy who was first seen by him February 3, 1898. This child had been breast-fed but had never been well. He had always been subject to gastro-intestinal disorders. He suffered from abdominal pain, vomiting and obstinate constipation. The belly was protuberant and flaccid, the fontanelles large, and there were no teeth. The epiphyses of the wrist and ankles were enlarged and the ribs slightly bended. The child weighed at birth eight pounds, and ten pounds and fourteen ounces at the time the author saw him. By the use of massage, salt baths, cod-liver oil and artificial food, he improved somewhat. The child left the hospital and was brought back again because of peculiar movements of the head and eyes which had existed about six weeks. It seemed that these movements had followed an attack of measles some few months before and because of this illness was weaned entirely and fed upon cow's milk and Eskay's food. The evidences of rickets had markedly increased. The bowels were still obstinately constipated and the tongue coated. The head movements were vertical, that is up and down, occasionally somewhat lateral, with the inclination of the head to the right; it was not a spasmodic movement, occurring about ninety times a minute and ceasing only if the child was feeding.

The second case was that of a white female child, twelve months of age, breast-fed for three months and then fed on condensed milk. It was first seen at the Children's Hospital in February, 1895. The child had diarrhea and constipation alternating for many months and could not walk. There were very marked rachitic symptoms, protuberant belly, wide fontanelles, and no teeth. There were enlarged epiphyses and a well-defined rosary. The head movements had been noticed by the mother since the seventh month. They were lateral or rotary, rapid, smooth and rhythmical, occurring from fifty to sixty times a minute, and ceasing when she lay down. The pupils were equal and reacted to light; both knee-jerks were present.

The third case was a female infant, three months old, and had been fed upon condensed

milk since birth; the teeth were absent and there were many evidences of rickets. The tongue was coated and the child was subject to attacks of diarrhea. The lateral movements of the head lasted for two months and were only noticed when the child sat erect. There was no nystagmus. The treatment of all these cases consisted in regulation of the diet, salt baths, massage and the administration of cod-liver oil.

Poisoning by Vapo-Cresoline.—Dr. Samuel S. Adams reported two cases of vapo-cresoline poisoning which he thought were directly attributable to the fumes of a vapo-cresoline lamp. In both cases the poison was not suspected. In the first case he was told that the child had whooping-cough, and in the second case he was told by the doctor, by whom he was called into consultation, that the child was dying of pneumonia. In this latter case he found the child with stridulous respiration and it frequently cried; there were also present a cold, clammy sweat and dilated pupils. The family expected the child to die every moment. He stated that as he was leaving the room he saw between the crib and mother's bed a vapo-cresoline lamp. The history of the case was that the child had bronchitis and on the suggestion of someone the mother had secured a vapo-cresoline lamp which she had placed in the room the night before Dr. Adams was called in. About twelve o'clock that night the child refused food, which was at once remarked upon. It seemed to grow quiet, but at four o'clock the mother was awakened by a peculiar noise, and picking up the child found it in a cold sweat. Dr. Adams had the child removed to another room, where the windows had been raised and fresh air admitted. The child seemed to grow better, but when taken back into the sick room the symptoms reappeared, which indicated to him that the fumes from the vapo-cresoline lamp had caused the disorder. He stated that the odor of the vapo-cresoline lamp was apparent to his wife after he returned home. He reported these cases for the benefit of the Society.

The following papers were read by title: "Naso-Pharyngeal Disease in Pediatric Practice," Dr. F. Huber, New York; "Malarial Coma," Dr. G. M. Acker, Washington; "Pertussis," F. Forchheimer, Cincinnati; "General Subcutaneous Emphysema," Dr. A. C. Cotton, Chicago.

The following officers were elected at the business meeting preceding the morning session: President, Dr. Booker; Vice-President, Dr. Packard; Secretary, Dr. Morse; Treasurer, Dr. Adams; Editor and Recorder, Dr. Carr; Member of Council, Dr. Crandall.

Nigara Falls was decided upon as the next place of meeting, the sessions to be held May 27, 28, 29, 1901.

On motion of Dr. Samuel S. Adams, a vote of thanks was extended to the retiring President. The thanks of the Society were also extended to the Rector of St. John's Parish for the use of the hall, and to the various residents of Washington whose hospitality had been extended.

REVIEWS.

The Nature and the Work of Plants. An Introduction to the Study of Botany. By D. T. MACDOUGAL, Ph.D., Director of the Laboratories, New York Botanical Garden. The Macmillan Company, New York.

NATURE study has been much in vogue during the past few years, that part devoted to the study of plant-life being especially active. A large number of small manuals, founded to varying degrees on Kerner's "Life of Plants," have come in rapid succession. This, one of the latest, as well as one of the most elementary, is an excellent introduction to the living phenomena of plant-activity. We can cordially commend it to those desiring an authoritative and yet an elementary treatise.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By RICHARD D. HOBLYN, M.A. Thirteenth Edition. Revised by JOHN A. P. PRINCE, B.A., M.D. Lea Brothers & Co.: Philadelphia and New York.

We have been using this handy volume for some time and find it reliable and comparatively complete. As far as the terms of medicine are concerned, it contains most of them. Older methods of spelling are followed. In the matter of the words in vogue in the collateral sciences, like Mark Twain's Jumping Frog, we fail to find any particular point about that frog. Biological, chemical and botanical terms are few and far between and this dictionary has the same defects that all of them have in this line. Its medicine is, however, very good and there are a number of original features in the grouping of related topics that are strikingly suggestive.

THERAPEUTIC HINTS.

For Acute Pharyngitis.—

Apply wet compresses to the neck, give the patient small lumps of ice to hold in his mouth, and prescribe a mucilaginous gargle such as the following:

℞ Decoct. fol. altheæ (parts 1—10) . . . ʒ vi
Tinct. opii ℥ lxxv.
M. Sig. Gargle, to be warmed.

Another very useful gargle is a solution of 1 grain permanganate of potassium in a pint of water.—v. Schrötter (Landesmann).

Topical Application for Burns.—After having washed the part with boric solution and having evacuated the blisters if there are any, apply with the aid of a brush the following solution:

℞ Tannin ʒiiss
Alcohol ʒiiss
Sulphuric ether ʒiiss.

M. External use.

M. Nikolsky (*Bull. gen. de Therapeutique*, March 8, 1900).